

# **ANNAMACHARYA** **INSTITUTE OF TECHNOLOGY AND SCIENCES** **(AUTONOMOUS)**

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Venkatapuram Village, Renigunta Mandal, Tirupati, Andhra Pradesh-517520.

## **Department of Computer Science and Engineering**



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**ENGLISH FOR RESEARCH PAPER WRITING**

**(Common to CSE, CIC, AIDS)**

**(20AOE9901)**

**Prepared By**

**Faculty of English Department of HBS**

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES::TIRUPATI

(Autonomous)

ENGLISH FOR RESEARCH PAPER WRITING

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**UNIT-1**

**Planning and Preparation – Word order – Breaking up long sentences, Structuring Paragraphs and Sentences – Being Concise and Removing Redundancy – Avoiding Ambiguity and Vagueness.**

**\*PLANNING AND PREPARATION:**

**Definition:** A research paper is an essay in which you explain what you have learned after exploring your topic in depth. In a research paper, you include information from sources such as books, articles, interviews, and Internet sites. You also use your own ideas, knowledge, and opinions. Most of your paper (as a rule of thumb, at least 80%) must be in your own words.

**Main Ideas:** Your paper should focus on a central issue that interests you. Limit your topic so that you can cover it in a paper of the assigned length. Organize the paper around the points that are most important in your opinion. State your main ideas in your own words and use information from your sources to support them.

**Paraphrasing and Summarizing:** Incorporate ideas and facts from your sources by paraphrasing and summarizing. Write the ideas in your own way, using different words and sentence structures and leaving out unnecessary details.

**Quotations:** Use quotations when the author's words are especially well chosen or memorable. When you quote even a short phrase, copy the exact words, enclose them in quotation marks, and cite the name of the author or speaker.

**Documentation:** When you give facts, paraphrase and summarize ideas, or quote someone else's words, you must document your sources. As a rule, anything that is not common knowledge must be cited. The purpose of documentation is to give credit to the author and to allow your readers to look up your sources. Your paper is stronger because you can prove that the information came from reliable sources.

**Steps in the Process**

**Choose a Topic:** Select a topic covered in the course or assigned by the instructor. Discuss with your instructor any questions about an appropriate topic.

**Do Library Research:** The college library has the best resources to do your research. Look for a variety of sources, such as books, periodicals, and Internet sites. Books give a broad perspective, while recent articles provide up-to-date information. You

(20AOE9901)

can search for articles from many newspapers, magazines, and scholarly journals in the library's research databases.

**Narrow Your Topic:** As you do research, you may form a question that you want to answer or find that a lot of information is available about a particular aspect of your topic. For example, if you started with the topic deforestation, you might narrow it down to the deforestation of the Brazilian Amazon, or you might try to answer a question: Can logging be done in a sustainable way?

**Read Actively and Make Notes:** As you read your sources, highlight and make notes in the margin (on copies). Write summaries of the main points in your own words, noting the source of each summary. If you copy groups of words, put them in quotation marks so that you will remember that you copied them.

**Plan:** Decide how to organize your paper and make an outline that will help you stay on topic and present your ideas in a logical order.

**Write and Revise:** Do not expect to write a finished paper all at once. First, get your ideas down on paper in a rough draft. Read it over and revise, trying to improve the content and organization. Ask someone else to read it and give you feedback. Edit your paper for sentence structure and word choice.

**Document Your Sources:** In addition to citing your sources in the text of your paper, the last page will be a list of sources. Use the documentation style that your instructor assigns. Four common styles are Modern Language Association (MLA), American Psychological Association (APA), Chicago Manual of Style (CMS), and Council of Science Editors (CSE). You can pick up a free Term Paper Handbook for any of these styles at the Writing Center, and you can download them from the Writing Center website.

**Proofread:** Read over the whole paper slowly and carefully, checking for errors in grammar, punctuation, capitalization, and spelling. Make sure your paper follows the assigned format. Use the spelling checker on the computer, but do not depend on it. The spelling checker does not catch misspellings of similar-sounding words, and it frequently suggests the wrong word as a correction. The grammar checker is even less reliable. Remember you make the decisions and not the computer.

**\*WORD ORDER:**

**1. Example: Linking verb**

Subject + verb + subject complement

The sun was bright.

**2. Example: Transitive verb**

subject + verb + direct object

The big man kicked the round ball.

### 3. Example: Indirect object

subject + verb + indirect object + direct object

The generous man fed the dog a bone.

She sang the crowd a quiet song.

### Other Examples

1. When the subject of a sentence is composed of two or more nouns or pronouns connected by “and,” use a plural verb.

**She and her friends are at the fair.**

2. When two or more singular nouns or pronouns are connected by “or” or “nor,” use a singular verb.

**The book or the pen is in the drawer.**

3. When a compound subject contains both a singular and a plural noun or pronoun joined by “or” or “nor,” the verb should agree with the part of the subject that is nearer the verb.

**The boy or his friends run every day.**

**His friends or the boy runs every day.**

4. “Doesn’t” is a contraction of “does not” and should be used only with a singular subject. “Don’t” is a contraction of “do not” and should be used only with a plural subject. The exception to this rule appears in the case of the first person and second person pronouns “I” and “you.” With these pronouns, the contraction “don’t” should be used.

**He doesn't like it.**

**They don't like it.**

5. Do not be misled by a phrase that comes between the subject and the verb. The verb agrees with the subject, not with a noun or pronoun in the phrase.

**One of the boxes is open**

**The people who listen to that music are few.**

**The team captain, as well as his players, is anxious.**

**The book, including all the chapters in the first section, is boring.**

**The woman with all the dogs walks down my street.**

6. The words "each," "each one," "either," "neither," "everyone," "everybody," "anybody," "anyone," "nobody," "somebody," "someone," and "no one" are singular and require a singular verb.

**Each of these hot dogs is juicy.**

**Everybody knows Mr. Jones.**

**Either is correct.**

7. Nouns such as "civics," "mathematics," "dollars," "measles," and "news" require singular verbs.

**The news is on at six.**

Note: the word dollars is a special case. When talking about an amount of money, it requires a singular verb, but when referring to the dollars themselves, a plural verb is required.

**Ten thousand Rupees is a lot of money.**

8. Nouns such as "scissors," "tweezers," "trousers," and "shears" require plural verbs. (There are two parts to these things.)

**These scissors are dull.**

**Those trousers are made of wool.**

9. In sentences beginning with "there is" or "there are," the subject follows the verb. Since "there" is not the subject, the verb agrees with what follows.

**There are many questions.**

**There is a question.**

10. Collective nouns are words that imply more than one person but that are considered singular and take a singular verb, such as: group, team, committee, class, and family.

**The team runs during practice.**

**The committee decides how to proceed.**

**The family has a long history.**

**My family has never been able to agree.**

**The crew is preparing to dock the ship.**

11. Expressions such as “with,” “together with,” “including,” “accompanied by,” “in addition to,” or “as well” do not change the number of the subject. If the subject is singular, the verb is too.

**The President, accompanied by his wife, is traveling to India.**

**All of the books, including yours, are in that box.**

### **\*\*BREAKING UP LONG SENTENCES :**

Good academic writing is marked by clarity and comprehensibility. That is why using long sentences is often discouraged. Never-ending sentences not only make the paper dull, but also lead to mistakes. To be safe, use sentences that are short and to-the-point.

### **Advantages of short sentences:**

**There are three main reasons for using short sentences.**

1. **Fewer mistakes:** When using long sentences, you could end up making more mistakes. This is especially true for non-native speakers of English. A better approach is to break up your ideas and divide them among several sentences. This will make your points more pronounced and leave your writing error-free.
2. **Easier correction:** Revising your work is very important. When you have shorter sentences, editing becomes easier. Errors can be identified quickly and the text corrected without much difficulty.
3. **Better readability:** When dealing with a complicated topic in your thesis paper, writing short sentences helps. Ideas are expressed better and more clearly when the sentences are brief, which promotes understanding for the reader.

### **Keep it short and sweet:**

Even good writers can lose their way within a long sentence. A short sentence is both easier to write and more effective. It addresses the issue right away and makes it stand out. Shorter sentences also quicken the narrative pace, making your paper interesting for readers.

Since a cluster of short sentences will have a cluster of full stops, the reader is forced to pause at the end of each sentence. This makes it simpler for the reader to understand the points you are trying to make.

**Example:**

*'The lecturer asked us to use short sentences because he fears longer sentences will lead to errors in our writing and he does not want us to convey the wrong impression to the reader.'*

The same sentence could have been written as:

*'The lecturer asked us to use short sentences. He fears that using longer sentences will lead to errors in our writing. He does not want us to convey the wrong impression to the reader.'*

The longer sentence may be confusing for the reader. But the energy and forcefulness of the shorter sentences give life to the idea.

**Conclusion...**

Keep your writing terse and crisp. Avoid using long sentences in order to enhance reading comprehension. Keep this simple tip in mind and you will be amazed at the difference it makes to the flow of your paper.

**You can shorten long sentences by:****1. Separating independent clauses:**

Look for conjunctions like "and" in your sentences and see if the part after the "and" could be written as an individual sentence.

**2. Eliminating extra clauses:**

Remove sentence starts such as "in my opinion", "as a matter of fact", "as far as I am concerned". They add nothing to your sentence.

**3. Cutting out glue words:**

Glue words are the 200 or so most common words in the English language. They're grammatically correct, but often make your sentences unnecessarily long.

**4. Look for repetition and redundancy:**

Have you called something a "true fact"? Find places where you've repeated the same idea three times or used unnecessary words that you can easily remove.

**How to Cut Glue Words from Your Sentences:**

In every sentence, there are "working" words and "glue" words. Working words are words that are essential to the meaning of your sentence. Think subjects, verbs, objects. Glue words, on the other hand, are words that hold your sentence together and help it make sense. They're not necessary to convey your meaning—if you rewrite your sentence without glue words and have the same working words, it will still make sense.

Very long sentences are often overstuffed with glue words. These extra words make the sentence difficult to read and needlessly complex. If you reduce the number of glue words in your sentences, you can make your sentences shorter and easier to understand.

### **An example of a sentence with a lot of glue words:**

- **It doesn't matter what kind of coffee I buy, where it's from, or if it's organic or not, I need to have cream because I really don't like how the bitterness makes me feel.**

This sentence is long and complicated. There are lots of extra words and thoughts in it. Here's what it looks like rewritten:

- **I add cream to my coffee because the bitter taste makes me feel unwell.**

This second sentence says exactly the same thing (that the narrator adds cream to their coffee to get rid of the bitter taste) but it does so in half the words, making it clearer and easier for the reader to understand. If you have very long sentences, try rewriting them to remove glue words.

## **STRUCTURING PARAGRAPHS AND SENTENCES:**

### **What is a paragraph?**

Paragraphs are comprised of sentences, but not random sentences. A paragraph is a group of sentences organized around a central topic. In fact, the cardinal rule of paragraph writing is to focus on one idea. A solidly written paragraph takes its readers on a clear path, without detours. Master the paragraph, and you'll be on your way to writing "gold-star" essays, term papers, and stories.

### **How do you write a paragraph?**

A basic paragraph structure usually consists of five sentences: the topic sentence, three supporting sentences, and a concluding sentence. But the secrets to paragraph writing lay in four essential elements, which when used correctly, can make an okay paragraph into a great paragraph.

**1. Unity :** Unity in a paragraph begins with the topic sentence. Every paragraph has one single, controlling idea that is expressed in its topic sentence, which is typically the first sentence of the paragraph. A paragraph is unified around this main idea, with the supporting sentences providing detail and discussion. In order to write a good topic sentence, think about your theme and all the points you want to make. Decide which point drives the rest, and then write it as your topic sentence.

**2. Order :** Order refers to the way you organize your supporting sentences. Whether



you choose chronological order, order of importance, or another logical presentation of detail, a solid paragraph always has a definite organization. In a well-ordered paragraph, the reader follows along easily, aided by the pattern you've established. Order helps the reader grasp your meaning and avoid confusion.

**3. Coherence:** Coherence is the quality that makes your writing understandable. Sentences within a paragraph need to connect to each other and work together as a whole. One of the best ways to achieve coherency is to use transition words. These words create bridges from one sentence to the next. You can use transition words that show order (first, second, third); spatial relationships (above, below) or logic (furthermore, in addition, in fact). Also, in writing a paragraph, using a consistent verb tense and point of view are important ingredients for coherency.

**4: Completeness.** Completeness means a paragraph is well-developed. If all sentences clearly and sufficiently support the main idea, then your paragraph is complete. If there are not enough sentences or enough information to prove your thesis, then the paragraph is incomplete. Usually three supporting sentences, in addition to a topic sentence and concluding sentence, are needed for a paragraph to be complete. The concluding sentence or last sentence of the paragraph should summarize your main idea by reinforcing your topic sentence.

## **BEING CONCISE AND REMOVING REDUNDANCY:**

### **Introduction**

There will sometimes be a strong tendency for most of us to clutter up our writing, with a host of unnecessary words or phrases in the text. This is especially true when writing to a set word count perhaps, in which sometimes a little "padding" will assist. It doesn't change the negative impact that the clutter of redundant words and phrases are likely to have on the quality of our writing.

Redundancy, defined in the dictionary as the "superfluous repetition or overlapping of words", is best avoided in any line of communication between writer and reader, whatever the form of writing. Embellishing one's work with words can add a literary quality to a text, but trying too hard may be akin to "not seeing the wood because of the trees". Don't pay an excessive amount of attention to unnecessary details. Focus on the substance of what you're trying to say through writing, first and foremost of all.

### **Avoiding redundancy**

Repetition, unnecessary words, use of meaningless jargon, and use of pompous or over-the-top sentences and phrases are the main culprits behind redundancy in writing. Below are some examples, with clean versions that "tighten" the writing and convey the same information more clearly and concisely:

- **Redundant:** There were three astronauts that went on each and every Apollo

space mission to the moon.

**Clear and concise:** There were three astronauts on every Apollo moon mission.

**Redundant:** All things being equal, the leaders of the Students Union Association will consider the argument, and make their final decision by vote on Wednesday next week at an open meeting.

**Clear and concise:** The Students Union will announce the results of the vote at next Wednesday's open meeting.

Clear and concise writing saves both the writer and his/her readers a great deal of time (and patience). It makes the document more "palatable" and straight to the point.

There are commonly used phrases that do nothing but clutter up a sentence – and subsequently, the entire text. Unless necessary, avoid phrases like:

- As I was trying to say...
- At this point in time...
- For the most part...
- For the purpose of...
- In a manner of speaking...
- In the final analysis...
- As far as I am concerned...
- Be that as it may...

Particularly in the area of academic or research paper writing, the above phrases are best avoided. They convolute your sentences. They may be tempting, yes; they may sound fancy; but strive to achieve "snappy" and concise writing by doing away with them. Always keep the writing simple.

### **Less is more**

Always check and double-check to see if there is needless repetition, or if there are any redundant words, phrases, or expressions that can be removed. Less is more, and don't say in three sentences what you can say in one.

Another common mistake is to resort to repetition as a means of emphasizing a point. Words of emphasis sure are essential, but don't "over-emphasize" in such a way that you are underestimating your readers' comprehension and ability.

**"Above all, there is, of course, absolutely no need indeed to decorate your sentence**

**with words and phrases of emphasis if, without them, the sentence undeniably is indeed equally capable of stressing your point."**

### **AVOIDING AMBIGUITY AND VAGUENESS:**

Ambiguity means "multiple meaning." A word or passage that can be understood or interpreted in more than one way is ambiguous. For example: You see, many hands make light work.

**Note:** This sentence is ambiguous because of the words "light" and "work." It is unclear whether light is a noun or adjective, and whether work is a noun or verb. So, readers are left to wonder whether the "light is working," or the "work is light."

### **Eight Strategies:**

1. **Synonymy:** Find a clear synonym to replace the ambiguous word.

**The doctor made them well. → The doctor made them skillfully.**

2. **Expansion:** Adding a word or two to the sentence can remove ambiguity.

**He finished the race last Thursday. → He finished the race on last Thursday.**

3. **Rearrangement:** Use the same elements in a different order. Rearrangement usually involves two nouns and an adjective. The sentence is ambiguous because the adjective could modify one or both of the nouns.

**They are chewing tobacco and garlic.**

**or**

**They are chewing garlic and tobacco**

Since it's already known that chewing applies to tobacco, we are only uncertain as to whether the garlic is also chewable. So, by listing garlic first we identify that the "chewing" modifies both nouns. Otherwise, we can group the adjective, "chewing" with the noun "tobacco" after "garlic," to clarify that the garlic is not chewable:

**They are eating garlic and chewing tobacco.**

4. **Capitalization:** Capital letters are sometimes useful to make sentences clear.

**You should call your uncle George.**

**You should call your Uncle George.**

The first is ambiguous because it is unclear if the person calling the uncle is named George or if the uncle's name is George.

5. **Punctuation:** Commas, and other marks of punctuation, can be used to correct written ambiguity.

foreign study programs -->foreign-study programs.

In the above example, we encounter ambiguity as the result of successive modifiers. For an in-depth explanation, see the heading “Successive Modifiers” at the end of this hand out.

6. **Spelling**: Words that share the same spelling but different meaning in English are frequently the source for ambiguity in speech. However, spelling will rarely remove written ambiguity.

**The governor went hunting bear last week.**

7. **Alternation of Context**: In clear writing, the context restricts meaning of words and structures. Therefore, ambiguity can be remedied by making the context sufficiently restrictive. Include specific details to narrow the possible meanings of the ambiguous statement.

8. **Use of Grammatical Signals**:

Gender Signals (his, her, its):

**The puppy sat by the girl with the contented look**

**The puppy by the girl with (her/its) contented look**

Person-thing Signals (who, which):

**The dog of the neighbour that bothered him**

**The dog of the neighbour (who/which) bothered him**

Number Signals (was-singular, were-plural):

**One of the freshman girls who seemed downcast**

**One of the freshman girls who (was/were) downcast**

Coordination Signals:

**A car which stood behind the garage that was in need of paint**

**A car which stood behind the garage (and) which was in need of paint**

Successive Modifiers:

When trying to avoid ambiguity in your writing, it is important to keep in mind that successive modifiers should always be considered an automatic danger signal. Successive modifiers are more than one adjective before a noun. The more modifiers (adjectives) you have before a noun, the more chance you have of ambiguity.

**Small business man (Is the business small, or the man?)**

**Old car law (Is the law old, or the car?)**

**Gray cat's eye (Is the cat gray, or the cat's eye?)**

**\*\*\*\*\***

**UNIT -2*****Clarifying Who Did What, Highlighting Your Findings, Hedging and Criticizing, Paraphrasing and Plagiarism, Sections of a Paper, Abstracts, Introduction.*****Clarifying Who Did What:****Check your journal's style - first person or passive**

Check your journal's 'guidelines to authors' to see whether you are permitted to use *we*. If you can use 'we' then it is relatively easy for you to distinguish between your work and others. Some journals, particularly those regarding Physics, tend to opt for an impersonal form in the belief that science is independent of the person writing about it. This entails adopting a lower profile and using the passive form.

If your journal insists on the passive form, you need to be extremely careful. The most important point to remember is that YOU know which your work is and which someone else is. But the readers do not! You must make it clear for THEM.

**How to form the passive and when to use it**

Active: 1. We ***performed*** two tests.

2. Blake ***carried out*** one replication.

Passive (*is / was / will be* etc.+ past participle):

1. Two tests ***were performed*** (by us).

2. One replication ***was carried out*** by Blake.

EXAMPLE:

S1. Bilingual children *have been demonstrated / are believed* to adapt better to new situations than monolingual children.

S2. *It has been demonstrated / It is believed* that bilingual children adapt ...

The advantage of S1 over S2 is that the subject of the sentence (*bilingual children*) is at the head of the phrase, whereas it is delayed in S2.

Note that in formal English writing you cannot use *someone, one* or *people* to refer either to a particular person or a generic person. This means that you cannot replace S1 and S2 with S3 or S4:

S3. \*Someone / One has demonstrated that ...

S4. \*People believe that ...

**Ensure you use the right tenses to differentiate your work from others, particularly when your journal prohibits the use of *we***

- using figures, tables and references does not necessarily help the reader to understand whose work you are talking about. The reader still has to make an effort
- mistakes and inconsistency in tense usage can completely confuse the reader. If such mistakes are made frequently it could become quite irritating for the referee or reader
- you can still keep your journal happy by not using *we* - for some reason they raise less objections if you use *our!*
- each sentence should be a logical progression from the previous one. If you mention someone else's work and then your work in consecutive sentences, the connection between the two must be clear to the reader. It is not enough just to use two different tenses .

**For journals that allow personal forms, use *we* to distinguish yourself from other authors**

The simplest way to make a distinction between your results and other author's is to use *we* - provided that your journal allows you to do this. Making contrasts between what you did and what others did is much simpler when you use *we*. However, you don't want to begin each sentence with *we*, as this would be monotonous for your readers. So you can use a mixture of active (*we found*) and passive (*it was found*).

Only use the passive to describe your work if you have clearly established that now you are talking about your work. You can do this by using *we* or *in our study* at the beginning of a paragraph - this alerts the reader that you are going to discuss your work, so even if you then use the passive the reader still knows that it is your work.

If you then introduce someone else's work, make sure that the next time you talk about your own work again you begin the sentence with *we* or *in our study*.

**Do not use *we* to explain your thought process**

This result in an increase in the number of words you will need to use - but clarity is more important than conciseness.

It is over-stressed how important it is to make such differentiations between our work and that of others. Lack of such a differentiation is one of the most common and serious mistakes made in research papers. It is imperative that you check through every sentence in which you report a finding, and make it 100% clear to the reader who is responsible for the finding.

### **Ensure that readers understand what you mean when you write**

Another problem arises when in consecutive sentences you describe your results in relation to the results of two or more authors. If there is a possibility of ambiguity it is always best to specify the author again.

### **Use short paragraphs**

Throughout the Discussion, and sometimes during your Introduction, you will need to switch from your work to other authors' work. Each time you begin a new area of comparison, begin a new paragraph. This makes it much easier for the reader to follow. Also consider using one paragraph to describe other authors' work and a new paragraph to describe your own. Constantly switching within the same paragraph from your work to other authors' can be quite hard for readers to follow.

### **Make logical connections between other authors' findings and yours**

When you write the various sections of your paper you know why you are referring to other authors, but the reader doesn't. You need to make the connections clear.

## **Highlighting Your Findings:**

### **Ensure that referees can find and understand the importance of your contribution**

The way to talk about your findings has a crucial impact on whether the referees will recommend that your paper be accepted for publication.

When :

- the research is insufficient to provide substantial new insight.



(20AOE9901)

- the datasets potentially not providing valuable information for the scientific community.

-Most importantly the results are merely descriptive, and are insufficient to support the critical conclusions

Consequently, there's no alternative but to decline the paper for publication in The Journal.

### **Help your findings to stand out visually on the page by beginning a new paragraph**

To be able to read your key findings and to understand the contribution of your paper, readers need to be able to easily find these key findings on the page. If your key findings are buried in the middle of a paragraph, there is less chance that readers will see them and read them. Readers tend to concentrate at the beginning and ending of paragraphs, rather than the middle.

So when you have something important to say, begin a new paragraph. That is the key finding paragraph (KFP). A KFP should, if possible, be a little shorter than the previous and following paragraphs. This will help it to stand out from the page.

A KFP should only focus on your key findings. There should be no (or minimal) background information or citations from the literature. The background and citations should be put in another paragraph.

### **Make your sentences shorter than normal**

Readers' eyes tend to be attracted most to the white space between sentences and to the capital letter that begins each sentence (try testing this out for yourself ). This means that shorter sentences are noticed more, and of course they are generally easier to follow and understand.

This visual factor is critical to the impact of your paper.

It is very similar to a good oral presentation. When presenters have something important to say, they slow down the speed of their voice, speak a little louder or more emphatically, use much shorter sentences, and use particular adverbs (e.g. importantly, interestingly, remarkably) to attract attention. Presenters do this to (i) attract the audience's attention, (ii) to underline the importance of what they are saying, (iii) to help the audience understand what is being said.

### **Present your key findings in a very short sentence and list the implications**

It is crucial that the referee (and readers) are clearly alerted to your key findings, and that they clearly see (literally on the page) the uses and implications.

### **Consider using bullets and headings .**

We tend to notice bullets (bulleted or numbered) more than blocks of text. So if your journal's style guide allows, occasionally use bullets to summarize important points.

You need to follow certain conventions when using bullets. The most important is that each bullet begins with the same grammatical part.

Your decision about whether to use standard bullets or numbered bullets will depend on whether you will refer to the elements in the bullets in the following text. If you have a list of three or more bullets, and you need to refer to them, then it is easier to number them.

For more on the use of bullets, see the companion volume English for Research:

Some journals do not force you only to use the standard main headings (Introduction, Methods etc.). You can also use subheadings to direct your readers' attention to important aspects of your work.

### **Use tables and figures to attract attention**

Another visual way of attracting attention is to place tables and figures strategically throughout the paper. The readers' eyes will inevitably be attracted to any non-textual information, such as graphs and tables. The next thing their eyes will focus on will probably be the legend to the figures, and then the paragraph immediately following the legend. So use this paragraph to make an important point. Of course tables are also the perfect way to summarize key findings. Check the maximum number of figures and tables that your journal allows, and keep them as relevant and concise as possible.

### **Signal to the reader that you are about to say something important by using more dynamic language**

You can attract readers' attention not only through visual techniques, but also by the words you use.

The following adverbs, used at the beginning of a sentence, are effective in signalling

to readers that you are now going to tell them something important:

importantly, intriguingly interestingly surprisingly, incredibly, remarkably, significantly, unfortunately

You can also use adjectives that add a positive feeling to what you are saying, for example: advanced, attractive, convincing, cutting-edge, effective, favorable, important, novel, productive, profitable, successful, superior, undeniable, and valuable. You can make them even stronger by adding extremely or very in front of them, but you may find that they have just as much or more impact without these extra words.

In any case, you should only use these adverbs and adjectives once or twice, otherwise they lose their impact or you may be considered as being arrogant. If you have something less important to say, you could probably just use a link word such as:

- in addition - to add an additional comment, benefit or feature
- however - to signal that you now have something to say that qualifies what you have just said
- in contrast - to highlight that what you are going to say next goes against what you have just said.

### **Only use specific terms when describing your key findings**

Readers are more interested in reading specifics than general concepts. Particularly when you give your key findings, you need to use the most concrete and specific words and phrases possible. If you don't, you are in danger of losing the attention of the reader.

### **Avoid flat phrases when discussing key findings**

The way you write a phrase should reflect the importance of what you are saying. There is nothing in it that says to the reader 'Hey, this is really important. It is a key finding that I really want to draw your attention to - please take note of this'.

-splitting the long sentence into two shorter sentences.

-making a comparison with previous methods.

-Using clearer language to highlight the implications of the pre-treatment.

### **Be explicit about your findings, so that even a non-expert can understand them**

Your paper may not only be read by people working in exactly the same field as you. In order to acquire funding to continue working in research, some researchers have to change from their field into a more financially retributive field. This means that some people who are not completely familiar with your field may need to read your paper. Secondly, wounds make fruit susceptible to infection.

The long sentence has been divided into two shorter sentences. Much of the redundancy has been removed along with abstract nouns that add no value (tendency, process, phenomenon, strategy etc.). Readers can now understand that there are two key findings (firstly, secondly). The same key terms have been used, i.e. just wound, rather than wound and lesion (which both have the same meaning, but readers may think they are used to mean different things).

Friendly style should be adopted in every sentence of the paper. In fact, you might be criticized for being 'too informal' or not sufficiently 'scientific' if you used this style throughout your paper. However, when you are saying something of critical importance, then it helps to use such a direct style. This will make your message 100% clear to everyone – to the referee, to the expert reader, and to the inexperienced reader.

### **Convincing readers to believe your interpretation of your data**

Data can often be interpreted in more than one way. One reason for a paper being initially rejected is that the referee may interpret your data in a different way from how you have interpreted your data. The referee may then request that you do further experiments / research just to check whose interpretation is correct. In some cases, such extra experiments may be useful, but they will delay your paper being published.

One way to avoid the referee making such requests is to predict what these requests are likely to be. Then you deal with them already in your initial manuscript in a way that your referees will be willing to digest.

### **Show your paper to a non-expert and get him / her to underline your key findings**

A great way of discovering how explicit you have been in presenting your key findings is to show a non-expert your paper. Ask them to underline where they think you have introduced and discussed your key findings. This task should be possible

even for someone who knows nothing about your topic. If they fail to underline your key findings, then you know that you need to highlight your key findings even more. If you want to be more thorough, you could get the same person also to find places where you discuss the implications and limitations of your research.

### **Beware of overstating your project's achievements and significance**

This chapter has been all about highlighting your findings so that readers can both physically see them on the page and also appreciate their significance. But no research, study or project is perfect. You need to be explicit not just about the strengths of your work, but also the weakness and potential for bias (e.g. in your selection and sampling procedures).

Particularly in the Discussion you should purposely offer alternative explanations that take into account any potential for bias or limitations in your methodology and in the interpretation of your results. Such insights into these areas will be seen by the referee and readers as a sign of the quality of your research.

On the other hand, if it seems you are overstating the meaning of what you have found, the referee may suspect you of research bias. This may mean that your paper will be initially rejected.

## **Hedging and Criticizing:**

### **Why and when to hedge**

Hedging entails anticipating possible opposition by your referees and readers by not saying things too assertively or directly. A hedge was originally a fence or boundary delimiting an area of land – it was thus a form of protection from outsiders. Today, hedge has a metaphorical meaning – you protect yourself against some adverse risk. In your case, the risk is criticism by referees and other researchers. The idea is that you express yourself with honesty, precision and caution, and you are diplomatic in any criticisms you make of other authors.

If you learn how to hedge, it may help you on the way to gaining acceptance in your field. On the other hand, if you seem to be too sure of yourself, you might alienate the referee and potential readers.

Hedging does not mean that you should be vague. In fact, you must be precise as possible. It is simply that you express this precision in an open-minded

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way that encourages other authors either to agree with your hypotheses or to postulate their own.

### **Highlighting and hedging**

Highlighting means, for example:

- helping the reader to see your findings on the pages of your manuscript (e.g. not hiding key findings in the middle of a long paragraph) using shorter sentences when giving important information
- using more dynamic language when drawing attention to key findings than when talking about standard issues

### **Toning down verbs**

There are some verbs that leave no room for doubt, for example: is / are, means, equals, demonstrates, proves, manifests.

### **Toning down adjectives and adverbs**

Some adjectives and adverbs have a very strong tone. Here are some examples:

innovation: innovative, novel, cutting edge, seminal, pivotal

importance: extremely important, very significant, of central / vital / fundamental importance.

certainty: clear(ly), obvious(ly), evident(ly), conclusive(ly), definite(ly), undeniable, undeniably, undoubtedly

When you are referring to your own work, you need to be careful how you use the above adjectives and adverbs. You might risk being accused of being too sure of yourself.

### **Toning down strong claims by inserting adverbs**

Different adverbs have different levels of power, which indicate different levels of confidence. If you are talking about how visible something is or how easy it is to detect.

Use the adverb significantly wisely. It is often associated with statistics and simply

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means that something is unlikely to have occurred by chance. So it does not have the general meaning of being important or noteworthy.

Sometimes, you need to talk about the level of completeness of an operation or activity. In such cases you can use adverbs such as partially, in part, to some extent, and to a certain extent. Again, these are rather vague expressions, if possible you should try to quantify them.

### **Toning down the level of probability**

Another way to hedge your claims is to give readers an indication of how likely your findings are correct. There are many ways of expressing this kind of probability. The percentage probabilities in the example below should only be seen as very general indicators.

modal verbs

X must / cannot play a role in Y. (100% certain)

Smoking can cause cancer. (100% - this does not mean that smoking always leads to cancer, but only that it has been proved that in certain circumstances smoking is the cause of cancer)

### **Anticipating alternative interpretations of your data**

If you want the referee and readers to accept your specific interpretation of your data, you will be more convincing if you also provide alternative interpretations. Basically you are anticipating any objections that they might have - you are playing the devil's advocate with yourself.

### **Telling the reader from what standpoint you wish them to view your data**

Rather than using expressions such as in our view and we believe, which clearly express your point of view, you can tell the reader from which standpoint you want them to interpret or judge your data.

Useful verbs in such contexts are *imply, indicate, suggest, point toward, hint at etc.*

### **Saving your own face: revealing and obscuring your identity as the author in humanist subjects**

In natural sciences, authors often adopt an objective stance by writing in an impersonal fashion. Writers in social and political sciences, on the other hand, tend

to have a more personal construction of reality and thus may use the first person to persuade the reader towards their opinion.

### **Saving other author's faces: put their research in a positive light**

It is fine to question other people's findings and conclusions. Even the most reputable papers sometimes include poor research. But when you do make criticisms, ensure that you always do so in a constructive way that still manages to put the original research in a positive light. In this way you save the original author's face, i.e. their reputation and position in the academic world.

### **Don't over hedge**

It is of course possible to over hedge, and become vague and unsure. This is not a good approach. Professor Tony Leggett, Nobel prize winner in Physics, spent many of his early academic years in Japan, and has these comments about the Japanese style of writing.

### **Hedging**

Elisabetta said:

In Italian we use hedging devices too, but the problem is that they do not always have a direct equivalent in English. For example, in Italian when we are expressing doubt about something we can use the subjunctive mood. But in English the subjunctive is generally the same as the indicative, thus the sense of doubt that we express in our mother tongue is completely lost when translated into English. In fact the referees reports that I received for my first papers commented that I needed to be more 'humble' and less 'presumptuous'.

This means I have had to learn to hedge when I write in English. Initially this was quite hard. However, I have now realized that basically all I have to do is to precede any strong statement with a few soft introductory words that I have learned by reading other archeological papers in my field. It is actually easier than it looks!

## **Paraphrasing and Plagiarism:**

### **What the experts say**

*Plagiarism is unacceptable under any circumstances but, despite this universal*



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*disapproval, it is one of the more common faults with student papers. In some cases, it is a case of downright dishonesty brought upon by laziness, but more often it is lack of experience as how to properly use material taken from another source. ...*

*Plagiarism in professional work may result in dismissal from an academic position, being barred from publishing in a particular journal or from receiving funds from a particular granting agency, or even a lawsuit and criminal prosecution.*

Dr. Ronald K. Gratz, Associate Professor, in the Department of Biological Sciences, Michigan Technological University

(USA), author of "Using Another's Words and Ideas"

### **Plagiarism is not difficult to spot**

Plagiarism is very easy to identify, particularly in papers written by non-native speakers. After revising a lot of research papers from PhD students. Sometimes it is said a paragraph that contains a considerable number of mistakes in the English (grammar, vocabulary, spelling etc.) and then suddenly there is a sentence written in perfect English! This immediately makes suspicious, so Googling the sentence and very frequently discovered that it comes from a published paper.

### **You can copy generic phrases**

It is perfectly normal to copy phrases from other people's papers. However, these phrases must be generic. In fact, such phrases should help you to improve your English -

### **How to quote directly from other papers**

If you use any of the parts of Wood's text that are not in italics without any acknowledgement you are committing plagiarism.

Let's imagine you wanted to quote from the last line of Wood's paper, which concludes as follows:

The owners of international scientific English should be international scientists not Englishmen or Americans.

You can cite the exact phrase or sentence used by putting it in quotations marks. Then reference the author.

As noted by Wood [1997]: "The owners of international scientific English should be international scientists not Englishmen or Americans".

As an alternative to As noted by Wood [1997] you could say:

*Wood [1997] concludes: ,As Wood [1997] states: ,As Wood states in his 1997 paper:*

*,In his Conclusions, Wood [1997] writes:*

How you make the reference to Wood's paper will obviously depend on your journal's style. Putting quotation marks (" ... ") around an unaltered sentence and giving the proper citation for the origin of the work does not technically constitute plagiarism. But it may indicate to supervisors and referees that you have not actually understood what you have written – it is not your own work.

### **How to quote from another paper by paraphrasing**

Rather than quoting directly, you can paraphrase sentence using your own words. But you must still reference, otherwise it would appear that these are you own conclusions.

Let us now compare the versions.

wood's original version

paraphrased versions

(1) owners

belongs

(2) International scientific English

International scientific English

(3) international scientists

everyone in science the whole scientific community

(4) not Englishmen or Americans

not just ... native English speakers

You may be thinking that paraphrasing is a pointless exercise particularly if you quote the original reference to indicate that the concepts contained are not yours. However it is outlined above generally considered to be good practice in the international community. In addition, to be able to paraphrase means that you really have to understand the original sentence, which is clearly beneficial for you?

Note also that you may wish to paraphrase your own writing within the same paper, i.e. to not repeat in the Conclusions the same phrases you have used in the Abstract

### **Paraphrasing the work of a third author**

Another case is where you want say the same thing as another author (Wood, in S1), regarding a finding that does not belong to Wood but to a third author's work (Hinds, in S1) which Wood refers to. In this case Wood is discussing the literature, rather than his own personal ideas.

S1. More generally Hinds has put forward a widely discussed position that Japanese has a different expectation as to the degree of involvement of the reader compared to English, with Japanese giving more responsibility to the reader, English to the writer.

You could paraphrase S1 as follows:

S2. Many authors, for example Hinds, have proposed that the level of expected reader involvement in Japanese writing is higher than in English.

S3. It is generally accepted that Japanese writers expect their readers to be more involved than do English writers.

S2 retains the name of the author mentioned by Wood. S3 is stronger and suggests that what Hinds originally proposed has now become generally accepted (an alternative expression is it is well known that). This is commonly the case. In fact, Wood's article was published in 1997, since then several other papers and books have been published on the topic, which have reinforced what Hinds proposed.

### **How to check whether you have inadvertently committed plagiarism**

To check whether you have inadvertently plagiarized your own or other people's work, see if your journal offers Cross Check. This is a service offered by Cross Ref .It checks your paper against thousands of others to see whether the same phrase appears in someone else's work.

## **SECTIONS OF A PAPER:**

**A research typically contain:**

- Title page.
- Abstract.
- Introduction.
- Results.
- Discussions.
- References.

## **ABSTRACT**

### **What is an abstract? How long should it be?**

There are four main types of abstracts, all of which summarize the highlights of your research and all of which will be judged in isolation from the accompanying paper (if there is one). Abstracts are sometimes called Summaries.

Abstracts are found before a full article in a journal, standalone in databases of abstracts, and in conference programs.

### **Unstructured abstract**

A single paragraph of between 100–250 words containing a very brief summary of

each of the main sections of your paper

### **Structured abstract**

The same as (1) but divided into several short sections.

### **Extended abstract**

A mini paper organized in the same way as a full paper (e.g. Introduction, Methods, Discussion ...), but substantially shorter (two to four pages). Depending on the journal, conference or competition, the extended abstract may or may not include an abstract – for example, it may begin directly with an introduction

### **Conference abstract**

Normally a standalone abstract (sometimes up to 500 words), designed to help conference organizers to decide whether they would like you to make an oral presentation at their conference . It may be of any of the three forms above.

The type of abstract you choose and the format to use will depend on the journal or conference. Make sure you read their instructions to authors before you begin writing. **When should I write the Abstract?**

Write a rough draft of the abstract before you start writing the paper itself. This may help you to decide what to include in the paper and how to structure it. But experienced writers always write the Abstract (and often the Introduction too) last, i.e. when they have finished the rest of the paper. This reflects the research process itself - the first thing you write about is what you found, then how this can be interpreted.

In any case, and as with the whole paper, you must have a clear idea of your intended audience.

### **How should I structure my Abstract?**

An Abstract generally answers at least the first three of the following questions, and generally in the following order. You can use the answers to these questions to structure your Abstract.

*-Why did I carry out this project? Why am I writing this paper?*

*-What did I do, and how?*

*-What were my results? What was new compared to previous research?*

*-What are the implications of my findings? What are my conclusions and/or recommendations?*

However chemists, physicists, biologists etc. who are presenting some new instrumentation may want to focus not on what they found, but on what the benefits

of their apparatus are and how well it performs.

To decide what to include it may help you to go through your paper and highlight what you consider to be the most important points in each section. The order in which you answer the questions above can make a very different impression on readers.

### **Formal, natural and applied sciences:**

#### **How much background information?**

Although the style of an abstract may differ from discipline to discipline and from journal to journal, the structure and information provided is quite similar. The aim is always to tell readers all they need to know to help them decide whether to buy / read the paper.

Context setting should never take up more than 25% of the whole abstract, as it probably contains information that the reader already knows. Your readers want new information, not old information. Remember that the reader may be a referee who has to read hundreds of abstracts to decide which to include for a conference or in a journal. He / She wants to know immediately what the topic is and will be negatively affected if forced to wait several lines before understanding this. Of course, you can (and should) give more background details in the Introduction.

#### **Social and behavioral sciences.**

Below is a series of instructions for writing an abstract

1. Begin the abstract with one or two sentences saying what you did plus one key result, i.e. begin with information that the reader does NOT already know
2. Introduce the background by connecting in some way to what you said in your introductory sentence.
3. Use the background information (which the reader may or not already know) to justify what you did, and outline your methodology (and materials where appropriate)
4. Provide some more information on your results
5. Tell the reader the implications of your results

#### **I am a historian. We don't necessarily get 'results' or follow a specific methodology.**

##### **What should I do?**

If you analyze history abstracts, and other abstracts from humanistic disciplines, they still have a structure that is similar to a scientific abstract.

You have a primary objective (e.g. a theory or perspective that you would like to share, test, analyze or question), a design to your research, some methods and

procedures that you used, some outcomes from your research that support your theory / perspective, and some conclusions or implications derived from these outcomes.

Abstracts from social and behavioral sciences tend to devote more space to background issues and context setting. The 'thesis' is often formulated as a series of questions that inform the reader about what issues will be dealt with in the paper. In any case your abstract should include the following:

- background information
- your aim and its importance
- your contribution and its value
- what you looked at
- your conclusions and implications

1. **Background information** - there tends to be more context setting in humanistic than in scientific abstracts, and this may take up even 50% of the text

2. **Gap in the knowledge** - here the author challenges the accepted view on the topic. Using the question format, the author tells the reader what areas of the topic he plans to address.

3. **Methodology and results** - the author provides some brief information on the data he used to get his findings

4. **Conclusions**

5. **Implications** - having implications in some way justifies why the author did his work, it gives the work relevance, it shows that the work makes a real contribution and was not just carried out for the author's own personal interest

### **I am writing a review. How should I structure my Abstract?**

As with all abstracts of all disciplines, when you are writing a review you need to tell audience what your primary objective is. Given that you will not have space to review every paper in the literature, you should then explain your reasons for selecting certain papers. Your 'results' are your findings drawn from analyzing the literature.

Finally, for your review to have a real purpose you will want to state your conclusions and what implications they have for further research in your field.

So once again your structure is: aim, methodology (selection process), results, conclusions, and implications.

### **How should I begin my Abstract?**

When you read an advertisement for a product it never begins. The objective of this advertisement is to convince you to buy ... Instead advertisers go straight to the point. Abstracts are like advertisements for your paper.

You want your abstract to stand out so that there will be a better chance someone will notice it and read it. If you begin your abstract with commonly used phrases (by both native and non native English speakers) such as This paper deals with ... The aim of this paper ... This article explores ... We report ... you are not differentiating yourself from the others. In fact, some journals advise against using such expressions.

### **What style should I use: personal or impersonal?**

There are four possible styles for writing abstracts and papers:

style 1

I found that  $x = y$ .

style 2

We found that  $x = y$ .

style 3

It was found that  $x = y$ .

style 4

The authors found that  $x = y$ .

The style you use will depend on your discipline and on the requirements of the journal. Using the first person singular (Style 1), is generally only found in humanistic fields where the author's opinions are often outlined.

### **What tenses should I use?**

The most commonly used tenses in abstracts are the present simple (we show) and the past simple (we showed).

You can use the present perfect and the present perfect continuous when you describe a situation that began in the past and is still true now. This is typical when you are giving the context / background.

In the last few years there has been considerable interest in ...

Since 2010 attention has focused on ...

To date, there has not been an adequate analytical model ...

Note: the underlined parts highlight the past-to-present timeframe. For example, in the last few years means a situation or action that began a few years ago and is still true today. To date means so far in the history of this particular branch of study.

### **How do I write a structured abstract?**

Structured abstracts, which look like mini-papers, are becoming more and more popular. They are typically found in medicine, but also in economics, natural sciences and other areas. Most authors agree that the structured format helps them to write clearer abstracts. Structured abstracts also force the author to answer all the questions (including limitations to their research) that referees and readers are likely to ask.

In addition, they are much more readable as referees (for their peer reviews) and readers can find exactly what they want quickly.

As with all abstracts, it is very important that you follow the journal's instructions to authors which will tell you what sections to include in your abstract and what style to adopt.

### **How do I write an abstract for a conference?**

An abstract for a journal has to be relevant to the specialization of that journal. Likewise, an abstract for a conference must really fit the conference theme. This point is absolutely essential. Occasionally in the rush to organize the conference the editorial board may initially accept your abstract on the basis that it sounds interesting.

Then a few months later when you send them your full version, the editors may realize that it does not actually fit the theme. So if it doesn't fit, choose another conference. Try to ensure that your abstract will not just be enticing for the editorial board but also that it will be suitable for publishing in the conference handbook / proceedings.

Your title should be interesting but not too obscure or too colloquial / witty. It can be less 'technical' than a title for a journal, and many often contain two parts - the first part is technical, and the second part contains a more informal interpretation of the first part. Or vice versa - the first part is more fun, and the second more serious.

If the conference that you plan to go to is not in its first edition, you can look at abstracts from the previous editions to see their style and tone. In any case, the rules for writing the abstract itself are the same as for a journal, though your style may be slightly more informal.

### **How do I write an abstract for a work in progress that will be presented at a conference?**



Conferences are generally planned up to two years in advance. When you answer the call for papers, your research may not yet be complete, but nevertheless you think that the conference would be a good way to get feedback on your progress.

### **How should I select my key words?**

### **How often should I repeat them?**

There is a lot of mystery around how Google and other search engines use key words when indexing websites and articles. In any case it makes sense to have key words in your abstract (and title too) because it forces you, the author, to decide what words in your paper really are important. The key words are also the words that readers are looking for in their initial search and then when they actually scan your abstract.

General consensus seems to be to not repeat the key words more than three times in the abstract. This can be tedious for the reader. More importantly, 'keyword spamming' may lead to the web page being rejected by the search engine.

### **Should I mention any limitations in my research?**

You should certainly mention the limitations of your research at some point in the paper. However, given that an Abstract is designed to 'sell' your research, you might decide not to mention the limitations until the Discussion.

### **What should I not mention in my Abstract?**

You should try to avoid:

- background information that is too generalist for your readers.
- claims that are not supported in the paper .
- terms that are too technical or too generic - this will depend on your audience.
- definitions of key terms .
- mathematical equations .
- generic quantification (e.g. many, several, few, a wide variety) and the over use or unjustified use of subjective adjectives (e.g. innovative, interesting, fundamental).
- unnecessary details that would be better located in your Introduction, such as the name of your institute, place names that readers will not have heard of
- references to other papers. However, if your whole paper is based on an extending or refuting a finding given by one specific author, then you will need to mention this author's name.

### **How can I ensure that my Abstract has maximum impact?**

There are three main ways to do this. Firstly, put the information in the best

possible order. Secondly, highlight the importance of what you are saying. And thirdly, be as concise as possible.

### **What are some of the typical characteristics of poor abstracts?**

The problems are:

-it is not self-sufficient. If readers read this abstract in isolation from the paper, they would have no idea about what the author actually did in his / her research, nor what was found

-it looks like the beginning of an Introduction not an Abstract. Apart from the last line it is all background information. This information is interesting and relevant to the topic of the paper. But it is not new information. Basically, it tells the reader nothing about what contribution the author has made to this field of study.

- it contains a reference to another authors work, Hanna. This is not common in an Abstract.

## **INTRODUCTION:**

### **How should I structure the Introduction?**

An Introduction generally answers the following questions. You can use the answers to these questions to structure your Introduction.

- What is the problem?
- Are there any existing solutions (i.e. in the literature)?
- Which solution is the best?
- What is its main limitation? (i.e. What gap am I hoping to fill?)
- What do I hope to achieve?
- Have I achieved what I set out to do?

### **How should I begin my Introduction?**

Your aim is to include only enough background information to allow your reader to understand why you are asking the questions you are, in what context they appear, and why your hypotheses, predictions or expected results are reasonable. It is like a preview to the rest of the paper. Thus nearly every Introduction, irrespective of the discipline, would incorporate those parts marked with an asterisk (\*).

FUNCTION: definition of the topic plus background

AUTHORS TEXT:An XYZ battery is a battery that ... The electrodes in an XYZ

telephone battery are made of a composite of gold and silver, coated with a layer of platinum. The gold and silver provide structural support, while the platinum provides resilience.

This introductory phrase may not be necessary in your paper. Here the definition of the XYZ battery indicates to the reader that this is the background topic (i.e. the general context) of the paper. This is the place to include notations, technical definitions, and explanations of key words.

### **How should I structure the rest of the Introduction?**

The Introduction outlined the previous subsection continues as follows:

#### **Function :Survey of pertinent literature**

**AUTHORS TEXT:**More recent research has occurred in the field of laptop and j Pud batteries. Evans [15] studied the lifetime in 5G jPud batteries. Smith [16] and Jones [18] found that ... However their findings failed to account for ...

#### **survey of pertinent literature**

This part reviews the literature in the author's precise field. As in the previous part, it often draws attention to problems that have still not been solved. For example, you may think a particular study did not investigate some necessary aspect of the area, or how the authors failed to notice some problem with their results.

You only need to describe what is necessary for the specific purposes of your paper. Much of this literature will then be used for comparative purposes in the Discussion.

The length of the literature review ranges from a paragraph to several pages.

### **What typical phrases should I avoid in my Introduction?**

Referees have to read a lot of papers. While this can be a very rewarding task, it can also be quite tedious when many Abstracts and Introductions seem to begin in the same way. Thus, some writing experts advise avoiding stock phrases (i.e. typical phrases that everyone uses) at the beginning of the introduction. For example:

Recent advances in ... The last few years have seen ... Instead they recommended beginning in a more direct way.

### **How does an Introduction differ from an Abstract?**

There is some overlap between an Abstract and the Introduction. However, a frequent problem is that authors may cut and paste from their Abstract into their Introduction, which can be very repetitive for readers.

Below are the first two sentences from the Abstract and Introduction from a

paper (or 'Letter' as it is called in the journal where this study appeared) entitled Fragmentation of Rods by Cascading Cracks: Why Spaghetti Does Not Break in Half by Basile Audoly and Sébastien Neukirch. These sentences highlight the distinct ways that an Abstract and Introduction should be written.

**Abstract** :When thin brittle rods such as dry spaghetti pasta are bent beyond their limit curvature, they often break into more than two pieces, typically three or four. With the aim of understanding these multiple breakings, we study the dynamics of a bent rod that is suddenly released at one end.

**Introduction**: The physical process of fragmentation is relevant to several areas of science and technology. Because different physical phenomena are at work during the fragmentation of a solid body, it has mainly been studied from a statistical viewpoint.

The Abstract immediately tells the readers the specific topic of the paper and then what the author's goal is (corresponding to Points 2, 3 and 7 in the structure of an Introduction . Instead, the Introduction sets the context in very general terms (Point 2).

The concluding sentence of the Abstract is:

**Abstract** :*A simple experiment supporting the claim is presented.*

This eight-word sentence is expanded considerably in the Introduction, by describing more about what the experiment consisted in, and the result it gave. Note: the text reported below is the rest of the Introduction in its entirety.

Suggestions to use similar comparison between Abstract and Introduction.

- how they are structured differently.
- what elements from the Abstract the Introduction expands on.
- How sentences from the Abstract are paraphrased in the Introduction
- what information is covered in the Abstract but not in the Introduction, and vice versa.
- the relative word counts. This will give you an idea of the proportionate length of the introduction compared to the Abstract.

### **What tenses should I use?**

The present simple is generally used to begin the Introduction in order to describe the general background context, i.e. what is known already.

S1. *The physical process of fragmentation is relevant to several areas of science and technology.*

*S2. Persistence is an attribute valued by many.*

The present perfect is then used to show how the problem has been approached from the past until the present day.

*S3. Because different physical phenomena are at work during the fragmentation of a solid body, it has mainly been studied from a statistical viewpoint.*

*S4. Persistence has most often been studied in terms of cultural differences.*

During the review of the literature several tenses are used.

At the end of the Introduction, the present simple is used again when the authors state what they will do in the rest of their paper (we explain, I hypothesize).

### **How should I outline the structure of my paper?**

Check with your journal's instructions to authors with regard to whether an outline of the structure is required. If it is, or if you notice that all the papers in the journal have one, then your aim should be to describe this structure as concisely as possible and deleting unnecessary sentences. Some journals and reviewers advise that there is no need to have an initial sentence. Simply beginning a new paragraph at the end of the Introduction is enough to alert the reader that you are now going to talk about the structure.

### Unit –III

#### **Review of Literature, Methods, Results, Discussion, Conclusions - The Final Check**

##### **Review of Literature:**

A literature review is an account of what has been published on a topic by accredited scholars and researchers. Occasionally you will be asked to write one as a separate assignment but more often it is part of the introduction to an essay, research report, or thesis. In writing the literature review, your purpose is to convey to your reader what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are. As a piece of writing, the literature review must be defined by a guiding concept (e.g., your research objective, the problem or issue you are discussing or your argumentative thesis). It is not just a descriptive list of the material available, or a set of summaries.

##### **What is a literature review?**

A literature review is a survey of scholarly sources on a specific topic. It provides an overview of current knowledge, allowing you to identify relevant theories, methods, and gaps in the existing research.

##### **There are five key steps to writing a literature review:**

1. Search for relevant literature
2. Evaluate sources
3. Identify themes, debates and gaps
4. Outline the structure
5. Write your literature review

A good literature review doesn't just summarize sources—it analyzes, synthesizes, and critically evaluates to give a clear picture of the state of knowledge on the subject.

When you write a thesis, dissertation, or research paper, you will likely have to conduct a literature review to situate your research within existing knowledge. The literature review gives you a chance to:

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- Demonstrate your familiarity with the topic and its scholarly context
- Develop a theoretical framework and methodology for your research
- Position your work in relation to other researchers and theorists
- Show how your research addresses a gap or contributes to a debate
- Evaluate the current state of research and demonstrate your knowledge of the scholarly debates around your topic.

Writing literature reviews is a particularly important skill if you want to apply for graduate school or pursue a career in research.

### Step 1 – Search for relevant literature

Before you begin searching for literature, you need a clearly defined topic.

If you are writing the literature review section of a dissertation or research paper, you will search for literature related to your research problem and questions.

### Make a list of keywords

Start by creating a list of keywords related to your research question. Include each of the key concepts or variables you're interested in, and list any synonyms and related terms. You can add to this list as you discover new keywords in the process of your literature search.

### Keywords example

- Social media, Facebook, Instagram, Twitter, Snapchat, TikTok
- Body image, self-perception, self-esteem, mental health
- Generation Z, teenagers, adolescents, youth

Use your keywords to begin searching for sources. Some useful databases to search for journals and articles include:

- Your university's library catalogue
- Google Scholar
- JSTOR
- EBSCO
- Project Muse (humanities and social sciences)

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- Medline (life sciences and biomedicine)
- EconLit (economics)
- Inspec (physics, engineering and computer science)

You can also use boolean operators ( <https://www.scribbr.com/working-with-sources/boolean-operators/> ) to help narrow down your search.

Make sure to read the abstract to find out whether an article is relevant to your question. When you find a useful book or article, you can check the bibliography to find other relevant sources.

## Step 2 – Evaluate and select sources

You likely won't be able to read absolutely everything that has been written on your topic, so it will be necessary to evaluate which sources are most relevant to your research question.

For each publication, ask yourself:

- What question or problem is the author addressing?
- What are the key concepts and how are they defined?
- What are the key theories, models, and methods?
- Does the research use established frameworks or take an innovative approach?
- What are the results and conclusions of the study?
- How does the publication relate to other literature in the field? Does it confirm, add to, or challenge established knowledge?
- What are the strengths and weaknesses of the research?

Make sure the sources you use are credible, and make sure you read any landmark studies and major theories in your field of research.

## Take notes and cite your sources

As you read, you should also begin the writing process. Take notes that you can later incorporate into the text of your literature review.

It is important to keep track of your sources with citations to avoid plagiarism.



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It can be helpful to make an annotated bibliography, where you compile full citation information and write a paragraph of summary and analysis for each source. This helps you remember what you read and saves time later in the process.

### Step 3 – Identify themes, debates, and gaps

To begin organizing your literature review's argument and structure, be sure you understand the connections and relationships between the sources you've read. Based on your reading and notes, you can look for:

- Trends and patterns (in theory, method or results): do certain approaches become more or less popular over time?
- Themes: what questions or concepts recur across the literature?
- Debates, conflicts and contradictions: where do sources disagree?
- Pivotal publications: are there any influential theories or studies that changed the direction of the field?
- Gaps: what is missing from the literature? Are there weaknesses that need to be addressed?

This step will help you work out the structure of your literature review and (if applicable) show how your own research will contribute to existing knowledge.

### Step 4 – Outline your literature review's structure

There are various approaches to organizing the body of a literature review. Depending on the length of your literature review, you can combine several of these strategies (for example, your overall structure might be thematic, but each theme is discussed chronologically).

#### Chronological

The simplest approach is to trace the development of the topic over time. However, if you choose this strategy, be careful to avoid simply listing and summarizing sources in order.

Try to analyze patterns, turning points and key debates that have shaped the direction of the field. Give your interpretation of how and why certain developments occurred.

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## Thematic

If you have found some recurring central themes, you can organize your literature review into subsections that address different aspects of the topic.

For example, if you are reviewing literature about inequalities in migrant health outcomes, key themes might include healthcare policy, language barriers, cultural attitudes, legal status, and economic access.

## Methodology

If you draw your sources from different disciplines or fields that use a variety of research methods, you might want to compare the results and conclusions that emerge from different approaches. For example:

- Look at what results have emerged in qualitative versus quantitative research
- Discuss how the topic has been approached by empirical versus theoretical scholarship
- Divide the literature into sociological, historical, and cultural sources

## Theoretical

A literature review is often the foundation for a theoretical framework. You can use it to discuss various theories, models, and definitions of key concepts.

You might argue for the relevance of a specific theoretical approach, or combine various theoretical concepts to create a framework for your research.

Like any other academic text, your literature review should have an introduction, a main body, and a conclusion. What you include in each depends on the objective of your literature review.

## Introduction

The introduction should clearly establish the focus and purpose of the literature review.

## Body

Depending on the length of your literature review, you might want to divide the

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body into subsections. You can use a subheading for each theme, time period, or methodological approach.

As you write, you can follow these tips:

- Summarize **and synthesize**: give an overview of the main points of each source and combine them into a coherent whole
- **Analyze and interpret**: don't just paraphrase other researchers—add your own interpretations where possible, discussing the significance of findings in relation to the literature as a whole
- **Critically evaluate**: mention the strengths and weaknesses of your sources
- **Write in well-structured paragraphs**: use transition words and topic sentences to draw connections, comparisons and contrasts

Conclusion

In the conclusion, you should summarize the key findings you have taken from the literature and emphasize their significance.

### **Usage of tense in Literature review:**

The present simple or present perfect are generally used to introduce the literature review.

You must use the past simple when:

- The year of publication is stated within the main sentence (i.e., not just in brackets)
- You mention specific pieces of research (e.g., you talk about initial approaches and methods that have subsequently probably been abandoned)
- You state the exact date when something was written, proved etc.

The adverbials of time like since, until now, as yet, so far are typically used with the present perfect because they indicate something that began in the past (i.e., when research first began in this area) and continues into the present. They represent unfinished situations.

Use the present simple to discuss previously published laws, theorems, definitions, proofs, lemmas etc. Such published work is generally considered to be established

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knowledge and the use of the present simple reflects this.

The theorem *states* that the highest degree of separation is achieved when ...

The lemma *asserts* that, for any given strategy of Player 1, there is a corresponding ...

**Redundancy is often high in the review of the literature.**

Original version;

Long sentences are known to be characteristic of poor readability.

Revised version:

Long sentences are a characteristic of poor readability.

However, if you always refer to the literature in this way you will create a series of unnecessarily long sentences with considerable redundancy. This makes it hard for the reader to immediately identify the key points of the literature.

Sometimes in the Literature Review you want your readers to note the strong features of your work and the limitations of previous works by other authors. If what you propose has never been done before, you can begin your sentence as indicated by the words in italics below.

*As far as we know*, there are no studies on ...

*To [the best of] our knowledge*, the literature has not discussed ...

**What key skills are needed when writing the Methods?**

This section has several different names including: 'Methods', 'Methods and Materials', 'Experimental', 'Method Description and Validation'. In most journals the Methods section follows the Literature Review, in others it follows the Conclusions.

The secret of writing this section is to be able to describe the materials you used in your experiments and/or the methods you used to carry out your research, in a way that is sufficiently detailed to enable others in your field to easily follow your method and, if desired, even replicate your work. A key skill is to make sure

the descriptions are complete and yet are also as concise as possible, for example by referring to other works in the literature, including your own, that make use of the same or similar methods.

Another key skill is to write extremely clearly, with generally not more than two steps described in one sentence, and in a logical order. This will then enable your readers to easily follow your description.

Researchers generally agree that the Methods the easiest section to write because your methods are likely to be clear in your mind, so it may be a good point for you to begin writing your manuscript.

You should provide enough quantitative information (concentration, temperature, weight, size, length, time, duration etc.) so that other researchers can replicate what you did.

It may also help the reader if you use subheadings to explain the various stages of the procedure, which you can then use again (perhaps with modifications) in the Results.

Your experiments, sampling procedures, selection criteria etc. may have more than one step. It helps your readers if your description of each step follows the same logical order.

Ensure that you cover every step required. Because you are very familiar with your method, you may leave out key information either thinking that it is implicit (and thus not worth mentioning) or simply because you forget.

#### Methods section in chosen journal:

Typical ways include:

- (a) making a general statement about your method

The method described here is simple, rapid, sensitive and ...

- (b) referring to another paper

The materials used for isolation and culture *are described* elsewhere

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[20]. Materials *were obtained* in accordance with Burgess et al.'s method [55].

(c) stating where you obtained your materials from

Bacterial strains ... *were isolated* and kindly supplied by ...

Agarose for gel electrophoresis *was purchased* from Brogdon plc (Altrincham, UK).

(d) explaining how you found your subjects, i.e. begin with the setting

Subjects *were chosen* from a randomly selected sample of ...

Participants *were selected* from patients at the Gynecology Faculty of the University of ...

(e) indicating where (i.e. a geographical region) your investigation was focused

Our empirical investigation focused on Tuscany, a central region of Italy, ... The study *was carried out* in four boulevards in Athens (Greece) and ...

(f) referring the reader to a figure which shows the experimental set up

To highlight the advantages of the system, Fig. 1 shows the ...

(g) starting directly with the first step in your procedure

Frontal cerebral cortices *were dissected* from ...

Core-cell composite materials *were prepared* by colloidal assembly of ...

Most Methods sections are written in the past simple using the passive form. The past simple is required because the actions you describe took place in the past. The past simple also helps to distinguish what you did from what others have done (which is often described in the present simple).

The passive is good style here because the focus is on what was done rather than who did it. Thus, you can ignore any expert advice that tells you that the passive should always be avoided. It should be avoided, but only where it is not necessary. In the Methods the passive is both necessary and appropriate.

A frequent problem in the Methods is that the description reads like a manual, where each individual detail or action is described in a single sentence. Given that you are describing a procedure rather than making a complex analysis, it is perfectly acceptable to have two actions in one sentence.

It is important to be concise in the Methods. But conciseness does not mean writing a series of lists. This style may be appropriate on a presentation slide, but should be avoided in a paper. You only need to number your bullets if each bullet describes a step that is part of a chronological sequence.

Other ways to reduce the word count are:

- assume your readers have basic knowledge of the techniques used in your field, you can thus delete any superfluous information
- cite a reference rather than detailing the procedure again if any of your methods are fully described elsewhere (in one of your papers or someone else's)
- use tables and figures to summarize information
- be concise

The basic idea is present everything in your experiments, trials, procedures etc. in a way that will make best sense to your reader. The fact you did something before or after something else, may not be relevant for your reader, so in such cases chronology is not important.

Ex: \* The sample was filtered and acidified at pH 2. It was then mixed with X, which enabled the resulting solution to stabilize at ...

Grammatical constructions to justify aims and choices:

To introduce your choices you can use the following constructions:

*In order to validate* the results, we first had to ...

*In an attempt to identify* the components, it was decided to ...

*To provide a way of characterizing* the samples, an adaptation of Smith's method [2011] was used.

*For the purpose of investigating* the patients previous medical history, we ...

*Our aim was to get* a general picture of ...

*This choice was aimed at getting* a general picture of ...

The important thing is to choose the right verb form the examples): the infinitive (*to test*) or the *-ing* form (*of testing, at testing*).

There are several verbs in English that mean 'give the capability of' and highlight for your readers what your initial choices subsequently helped you to achieve.

*Allow* and *enable* are the most commonly used in research papers, and outside computer science they can generally be used interchangeably. Another verb is *to permit*, which is used less frequently as it often has the meaning of an authority giving someone the permission to do something. All three verbs require the same specific construction. In the examples below I have just used *allow*, but in all these examples from a grammatical point of view *allow* could be replaced with *enable* and *permit*.

### **Key skills are needed for writing the results:**

The key skill is first to decide what results are representative, and then to organize them in a sequence that highlights the answers to the aims, hypotheses or questions that you set yourself at the beginning of the paper. In many disciplines this involves the use of figures and tables, which are commented on in the text. In other disciplines, findings are only reported in text form.

From an English point of view the key skill is in reporting your results simply and clearly. If the referees of your paper cannot understand your results, then your contribution to the current knowledge base will be lost.

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### **Structuring your Results:**

The Results should answer the following questions.

1. What did I find?
2. What did I not find?
3. What did I find that I was not expecting to find? (e.g. that contradicts my hypotheses)

A typical structure is to follow the order you used for the protocols or procedures in your Methods. You then use figures and tables to sequence the answers to the



above questions.

There are two typical ways to begin the Results. The first is to give a general panorama of your surveys, experiments etc. without repeating the details you gave in the Methods section.

Overall, the results presented below show that ...

The three key results of this empirical study are: ...

The following emergent themes were identified from the analysis: ...

Results are things that you found before you start writing the paper. They therefore relate to past events, consequently the past simple is used to report them, often in a mixture of the active and passive forms.

Rather than telling the reader that a result is interesting or significant, show them how it is interesting or significant ... show the reader what they need to know to come to their own conclusion about the result. The adjective *interesting* means something very definite for the author, but not for the reader who has not been given the tools to assess why the *mean size* is *interesting*. Such descriptive adjectives (*interesting, intriguing, remarkable*) are rarely helpful. Adverbs such as *interestingly, intriguingly, remarkably* also suffer from the same problem. However, they can be used effectively if used at the beginning of a sentence, in order to attract attention to a key finding.

Ex: *Interestingly*, while the mean size generally varies among populations by only a few cm, the mean size in populations C and D *differed by 25 cm*. Two hypotheses could account for this, ...

However, this technique should be used only once or twice in the whole paper, otherwise it loses its effect.

Lack of conciseness is a frequent problem when describing data in figures and tables. Avoid phrases such *as can be seen* and *we can see*. Simply put the figure or table reference in brackets at the end of the sentence.

Another typical mistake is to repeat word for word the caption / legend to your figures and tables within the main text. Legends should be as short as

possible and be sufficiently detailed to enable your readers to understand the figure or table without having to read your text. It is vital that you pay attention to legends as some readers may only look at your figures and tables, without even reading the paper itself!

### **Key skills required for writing Discussions:**

Another skill is to interpret your results without repeating them. Most authors find discussing their results to be the most difficult part of the paper to write. When referees reject a paper, it is very often due to a poorly written Discussion. The secret is to sound both convincing and credible at the same time. You can do this by being positive about your own limitations, and constructive when discussing what you believe to be the limitations of others.

Structure of Discussion:

The Discussion should answer the following questions:

1. Do my data support what I set out to demonstrate at the beginning of the paper?
2. How do my findings compare with what others have found? How consistent are they?
3. What is my personal interpretation of my findings?
4. What other possible interpretations are there?
5. What are the limitations of my study? What other factors could have influenced my findings? Have I reported everything that could make my findings invalid?

How should I begin the Discussion?

Below are four possible beginnings for the same paper:

1. Remind readers of your goals, preferably in a single sentence:

One of the main goals of this experiment was to attempt to find a way to predict who shows more task persistence.

2. Refer back to the questions (hypotheses, predictions etc.) that you posed in your introduction:

These results both negate and support some of the hypotheses. It was predicted that greater perfectionism scores would result in greater task persistence, but this turned out not to be the case.

3. Refer back papers you cited in your Review of the Literature:

Previous studies conflict with the data presented in the Results: it was more

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common for any type of feedback to impact participants than no feedback

4. Briefly restate the most important points from your Results:

While not all of the results were significant, the overall direction of results showed trends that could be helpful to learning about who is more likely to persist and what could influence persistence.

Give readers a very brief statement of what you can conclude from your findings. You can then use this statement as a starting point for interpreting your findings and comparing them to what is already known in the literature. A good structure can be:

1. Make a general statement regarding your findings
2. Mention another author's work that relates directly to your findings
3. Make a link between her/his work and your work
4. Clearly state how your work differs from her/his work
5. State the conclusions that can be drawn from your results in light of these considerations

#### **Compare your work with that of others:**

The following text is an example of how to compare your work with others in the Discussion. It comes from a paper entitled *Exploring Stock Managers' Perceptions of the Human Animal Relationship on Dairy Farms and an Association with Milk Production* by Catherine Bertenshaw and Peter Rowlinson. The authors did a postal survey of 516 UK dairy (i.e. milk) stock managers (i.e. farmers) about how they believed humans could affect the productivity, behavior and welfare of cows and heifers (young female calves that have not given birth). Nearly half said they called their cows by name – such cows had a 258 liter higher milk yield than those who that were not called by their name. About 10% said that a fear of humans resulted in a poor milking temperament.

Below is the beginning of the Discussion section:

- (1) Our data suggests that UK dairy farmers largely regard their cows as intelligent beings, capable of experiencing a range of emotions. Placing importance on knowing the individual animal and calling them by name was associated with higher milk yields.

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- (2) Fraser and Broom [1997] define the predominant relationship between farm animals and their stock managers as fear.
- (3) Seventy-two percent of our commercial respondents thought that cows were not fearful of humans, although their reports of response to an approaching human suggest some level of fear, particularly for the heifers. With both cows and heifers this would appear to be greater in response to an unfamiliar human. Respondents also acknowledged that negative experiences of humans can result in poor behavior in the parlor.
- (4) Hemsworth et al. [1995] found that 30–50% of the variation in farm milk yield could be explained by the cow's fear of the stockperson, therefore recognizing that fear is important for animal welfare, safety, and production.
- (5) The elaborated responses reported in *our postal survey* contribute some examples of the capacities of cattle, and this contextual human insight may be useful for developing hypotheses for further study.
- (6) Most respondents (78%) thought that cows were intelligent. (7) However, a *study by Davis and Cheek* (1998) found cattle were rated fairly low in intelligence. *They* suggested that the ratings reflected the respondents' familiarity with the animals. (8) The stock managers in *our survey* were very familiar with their cattle and had a great understanding of the species' capabilities, through working with them daily. (9) *Stockpersons' opinions* offer valuable insight into this subject, which could enable more accurate intelligence tests to be devised; for example, to test whether cows can count in order to stand at the feed hopper that delivers the most feed.
- (10) Hemsworth and Gonyou (1997) doubt the reliability of an inexperienced stockperson's attitudes towards farm animals. *Our* survey found an experienced workforce (89.5% > 15 years).

In (1), Catherine begins with an overall summary of her key finding and its implications. In (2) she mentions a previous study (by Fraser) in the same topic area and thus connects her findings with the literature.

Fraser's study gave contrasting results to what Catherine reveals in (3). However, in (3) Catherine also tries to account for some of what Fraser's found (*although ... heifers*) and in (4) finds further confirmation of Fraser's findings in another study.

Catherine thus adopts a diplomatic approach in which she questions the findings of other authors in a constructive way. She uses their results either to corroborate her own results, or to put her results and their results in a new light.

In (5) Catherine concludes a paragraph by suggesting a future course of action. (6) is the first line of the next paragraph, so it is clear that the *respondents* are her respondents and not another author's.

In (7) she uses *however* to indicate that she is going to give some contrasting information. Her use of *they* clearly refers back to Davis and Cheek.

In (8) Catherine then clarifies for the reader that she is now focusing on her study. She does this again using *our*. If she had not inserted the phrase "in our survey", the reader would not know which stock managers she was talking about. Not making this distinction is an incredibly common error in Discussions and leads to total confusion for the referee and readers. In the literature *our* is often used, even if the style of the rest of the paper is impersonal (i.e. the passive is used, rather than *we*). Using *our* can be crucial in differentiating your work from others.

In (9), like she does in (5), Catherine makes a mini summary of what she has said in the rest of the paragraph. Her use of the simple present (*offer*) shows that she is talking about all stockpersons – not just those in her study or in Davis and Cheek's study. She also recommends a course for future action.

In (10) Catherine begins a new paragraph to indicate that she is now going to cover another subtopic. Good use of paragraphs is essential in signaling to readers that you are moving on to discuss something different. Catherine begins with a reference to the literature to establish the new subtopic, and then immediately moves on to her findings to make a contrast between inexperienced and experienced workers.

The rest of her Discussion is structured in a similar manner, in which she provides more conclusive evidence that calling a cow by its name, rather than problems connected with fear, is more likely to affect milk production. In each case, she makes it 100% clear to her readers why she has mentioned another person's work and how it relates to her work.

Discussion sections which also have Conclusions may end as follows:

(a) Tell your readers if and how your findings could be extended to other areas. But

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you must provide evidence of this. If you repeated your experiment in a different context, would you get the same result?

Although this is a small study, the results can be generalized to

... Our results may hold true for other countries in Asia.

(b) Suggest ways that your hypothesis (model, device etc.) could be improved on.

We have not been able to explain whether  $x = y$ . A larger sample would be able to make more accurate predictions.

A greater understanding of our findings could lead to a theoretical improvement in ...

(c) Say if and / or why you ignored some specific areas.

Our research only focuses on  $x$ , whereas it might be important to include  $y$  as well. In fact, the inclusion of  $y$  would enable us to ...

We did not pay much attention to ... The reason for this was ...

(d) Admit what you have not been able to do and as a consequence cannot provide conclusions on.

Unfortunately, our database cannot tell the exact scale of Chinese overseas R&D investment.

Consequently we cannot conclude that ...

(e) Reiterate your reasons for choosing your topic of investigation in order to convince your readers of the validity of what you have said in the Discussion.

Passive sentences do not reveal the author of the action and so the reader will not understand if you are referring to your findings or another person. So, to avoid ambiguity, use active sentences.

### **Pitfalls of other works in the literature:**

There are three areas to call into question regarding the work of other authors.

- Hypotheses that have never really been tested. You want to test them.

- Other studies have only been conducted very generally or in one specific field. You want to apply this research to a new area.
- Other studies have limitations. You are trying to overcome these limitations.

The important thing when criticizing other's work is not to undermine their credibility. The idea is that if you treat others with respect, they will treat you with respect.

It is essential that you inform readers of any limitations to your research or any failures or contradicting data. There is no need to consider these aspects of your research to be totally negative. Your readers will appreciate learning about what went wrong, as this may help them with their own research. The important thing is to be (i) honest, (ii) clear, and, if appropriate, (iii) discuss possible remedies.

Another way to lessen the impact of the limitations of your findings is to say that other authors have experienced similar problems. The strategy used in the above extract is:

- (1) explain the pitfall (i.e. the limitation in your work)
- (2) give reason for the pitfall
- (3) outline consequence of the pitfall
- (4) refer to a similar pitfall experienced by another author

You can also attribute your limitations to the fact that current knowledge (theories, models, technologies etc.) is unable to resolve the problems you have encountered.

### **Key skills needed when writing the Conclusions:**

One of the PhD students once remarked: *I find the conclusions quite difficult to write, even in my own language. If I wrote everything in the paper, what should I add at the end?* Her question sums up the dilemma that authors have with the Conclusions. It's not that the Conclusions section is difficult to write, it's just that authors don't know what to write. In fact, several journals do not even have a separate Conclusions section, authors simply write a concluding paragraph in

their Discussion.

Although the Conclusions may not be the last section that readers read, there is a strong probability that they will be the last thing that the referee reads. Consequently, they must be clear and concise, and leave the referee with a good impression. If your structure and English are poor here then this will have a negative impact on the referees and may affect their final decision as to whether to accept your paper or not.

The key skills are in knowing what referees and readers expect to find in Conclusions, not repeating exactly the same phrases and information from your Abstract and Introduction, and in providing a clear and high-impact take-home message for readers.

The Conclusions section is not just a summary. Don't merely repeat what you said in the Abstract and Introduction. It is generally not more than one or two paragraphs long. A Conclusions section typically incorporates one or more of the following:

1. a very brief revisit of the most important findings pointing out how this advances your field from the present state of knowledge
2. a final judgment on the importance and significance those findings in term of their implications and impact, along with possible applications to other areas
3. an indication of the limitations of your study (though the Discussion may be a more appropriate place to do this)
4. suggestions for improvements (perhaps in relation to the limitations)
5. recommendations for future work (either for the author, and/or the community)
6. recommendations for policy changes

The order these items appear is likely to be the same as suggested above.

It differs from the Abstract and Introduction as it is for a more informed reader. In fact, you are making a summary for readers who hopefully have read the rest of the paper, and thus should already have a strong sense of your key concepts.



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Unlike the Abstract and Conclusions, it:

- does not provide background details
- gives more emphasis to the findings
- talks about limitations, which are not normally mentioned outside the Discussion and Conclusions
- covers three additional aspects

To Begin Conclusion section:

Ex: In this paper we have presented a statistical study of the nature of ... We have shown that it is possible to reason about ... (personal form)

In this paper it has been shown how X can be applied to a wide range of ... A novel approach has been introduced to ... (Passive form)

### **Differentiation between Abstract and Conclusions:**

In the first sentence of Abstract, giving more details about what one did during the research. In the second sentence, providing more background information. In the third sentence, justifying the reason for the research. And in the fourth sentence, indicates what model to be used to carry out this research. Then all Conclusions summarize all these four points in one sentence.

The two sections have completely different purposes. The Abstract is like an advertisement for your paper – it has to attract the reader's attention. On the other hand, the Conclusions section is designed to remind readers of the most salient points of your paper. However, the Conclusions also have to add value. This added value is typically contained in the recommendations, implications and areas for future research.

If your journal has a separate section for Conclusions, i.e. the conclusions are not included in the Discussion, then it may be best to shift any overall conclusions you may have made in your Discussion into your Conclusions. This means that the final paragraph of your Discussion may just be a conclusion regarding one specific point, rather than an overall summary of the whole paper.

Sometimes it is impossible to leave the reader with clear conclusions regarding the contribution of your work – maybe your method turned out to be inappropriate and your results were not as brilliant as you were hoping for! In such cases simply say what you have learned about the problem and then suggest possible lines of future research. Such a final section is generally entitled Concluding Remarks.

If you don't have any clear conclusions, it is important not to present your findings in an exaggerated light or to say something uninteresting or irrelevant. Readers may still be able to benefit from what you found (or equally important, did not find). In order to present inconclusive conclusions, you may benefit from using hedging devices.

Here are some examples of authors admitting that their work did not achieve all that they had hoped for. In some cases, readers are immediately warned of this 'failure' through the use of the words highlighted in italics.

*Ex: Unfortunately*, we could not assess how much of the difference in outcome was due to ..

Typical ways to end your Conclusions. You can use one or more of these ways.

1. The first is to show how your work could be applied in another area.
2. The second typical ending is to suggest future work. There is some general agreement that the use of *will* refers to your own planned work, and that *should* refer to work that you believe could be addressed by the general community. Thus the following represent the authors' plans:

One area of future work *will* be to represent these relationships explicitly ...

3. The third way to end your Conclusions is to make a recommendation. The difficulty in making suggestions and recommendations is just in the grammatical construction. The examples below highlight a construction that may not exist in your language.

Ex. We suggest that policy makers *should give* stakeholders a greater role in ...

## **THE FINAL CHECK**

Many researchers finish their manuscripts just before (and often after!) the deadline. Due to such pressures of time, they often send their manuscript to the editor without doing a final check. Most manuscripts are written by multiple authors. This involves a lot of exchanges of versions of the manuscripts, with a consequent increase in the possibility of mistakes being introduced. Lots of changes are made at the last minute, and often no one checks them for accuracy in terms of English. One author needs to be responsible for the final check.

Referees are famous for asking for revisions before acceptance, which often involve what you might consider as trivial details, such as typos and spelling mistakes. Such delays cost you time and money and may also mean that another paper on the same topic gets published before yours.

Researchers tend to leave the manuscript writing process to the very last minute. This often results in a poorly written paper. Unfortunately, poor English and lack of clarity are one of the most frequent causes of a paper being initially rejected. You will waste several months if you have to resubmit your paper, and in the meantime someone else might publish a paper on the exact same topic! It is good practice to print out your paper. You are more likely to find mistakes connected with grammar, word order, and structure. Convert your document into a font that you find easy to read (e.g. Arial) and use 'double space' line spacing.

On screen you have much less perception of how your paper will look visually, and may not even notice that a paragraph is more than a page long. In a printed version, such long paragraphs are instantly visible. You thus have the opportunity to break them up into shorter paragraphs that are easier on the eye. Breaking up paragraphs is quick and easy to do.

Also, ask a colleague to read your printed version. He or she will very likely find mistakes that you have overlooked - in fact, your familiarity with your own work makes it quite difficult to spot errors.

Finally, read your manuscript aloud. You will find mistakes that are hard to

find by reading silently – particularly with regard to how a sentence flows and whether there are words missing.

Referees often make a direct connection between the time and effort that an author makes in presenting information, and how much time and effort the author has spent in doing their research. If the information is presented badly, then the implication is that the research may have been conducted badly too. Also it helps to remember that referees make reports on manuscripts in their free time for no financial reward – they are of much more benefit to you, than you are to them!

Referees are generally not English language experts. They are interested much more in the scientific content than in the level of English. The comments that referees make on your English often depend on whether they are native speakers (NS) or non-native speakers (NNS).

NNS referees tend to recognize the elements of 'poor' English that for them stand out the clearest:

- spelling mistakes and typos
- simple grammar mistakes (e.g. missing *s* on plurals and third person)

Here is a typical example, written by an NNS referee commenting on an NNS's English:

A big problem with this work is the English form: there are so many language errors that it actually seriously compromises one's ability to understand what is being presented. The paper needs an extensive revision by a native English speaker.

NS referees, on the other hand, tend to focus more on problems related to intelligibility and readability: verbosity, redundancy and rambling sentences. Many native English-speaking referees are sympathetic to their non-native colleagues. One reviewer I contacted said:

I typically don't comment on minor grammatical issues in my reviews unless the grammar makes the content hard to follow or understand. I can't imagine having to write all my scientific papers in a second language—it's hard enough to do in a native language—so I have a lot of sympathy for people who have that obstacle to publication.

Grammatical and lexical errors are unlikely to completely impair a referee's understanding of your paper, but too many of them might cause referees to become irritated and to lose interest not only in what you are writing about, but in you as well. Basically if your paper is filled with errors this requires too much effort on the part of the referee and this may have a negative impact on his / her opinion not only of your paper but also on your credibility as a reliable researcher.

All referees object to spelling mistakes, particularly as this is something that authors can easily check themselves. A series of trivial and easily correctable mistakes, may make some referees feel that you are not very competent and reliable

- and their opinion of your English may even throw doubts on their opinion of how well you carried out your research.

Judging errors is an extremely subjective exercise, and different referees may have very different ideas about what they would term as 'intolerable' or 'objectionable' errors. This may help to explain those occasions when your paper is rejected by one referee for 'very poor' English, whereas the other referees make no comment at all about the English level.

Sometimes referees will give no specific reasons for rejecting your paper due its poor English, but they will say something like: This referee recommends that the authors have their paper revised by a qualified native English speaker. This may happen for two reasons:

1. the referee is either a NS or a NNS and feels that the quality of the English is low but is unable to pinpoint exactly what it is. In this case, the cause of the problem is generally an overall lack of readability.
2. the referee is a NNS, is not sure of the level of English, and wants to protect himself / herself just in case there are errors. This is a face-saving device adopted by NNS referees in relation to the editor. However, please note that this only happens in some cases, and is not a general rule.

**Cut, cut, cut and keep cutting**

Imagine that you have been asked by the referee to reduce your paper by 25%. As you go through the paper, cut as much as you can (without necessarily eliminating any content). This very rarely leads to a poorer manuscript, more often it improves it massively. On the basis of identical content, there is no referee in the world who would prefer to review a paper of twenty pages rather than fifteen.

Make sure you haven't included any sentences or paragraphs just because they sound good to you or you are particularly pleased with the way you have expressed yourself. For example, in this chapter I could have removed the subsection above, but I decided to include it as an example of something that could be cut!

Finally, a few months into the future you will not even remember what you cut. It may seem desperately important for you to include something now, but really ask yourself: Do my readers need to read this? Will they notice if I have cut it out?

### **Check your paper for readability**

Website designers follow the principle of 'don't make me think'. This means that everything should be so clear to visitors to their websites, that these visitors intuitively know where to find the information they need. The visitors are not required to think.

Similarly, writers of technical manuals focus on presenting information in an orderly straightforward fashion that requires minimal intellectual effort on the part of the reader – they want the readers to assimilate the information in a relaxed way, they don't want to make their readers tired and stressed.

You do not want referees and readers to consider your work wordy, unclear, pompous, or dull, so when you make the final check of your manuscript, ask yourself the following questions:

- are my sentences reasonably short? (sentences longer than 30 words are generally hard to assimilate without having to be read twice)
- are my paragraphs reasonably short?

- have I only written what adds value, have I ensured there is no redundancy?
- have I clearly differentiated my work from the work of others so that the referees can understand what I did in relation to what others have done before me?
- have I highlighted my contribution and the gap it fills so that the referees can judge whether my paper is suitable for my chosen journal?

Readability is also affected by the following factors:

- poor layout: large blocks of text are hard to read, whereas short paragraphs with white space in between them are much easier
- ambiguity and lack of clarity: the reader is not sure how to interpret a phrase
- lack of structure: within a sentence, paragraph or section
- too much abstraction: the reader is not given concrete explanations or examples

lack of consistency

If you have time, it is a good idea to get colleagues to review your manuscript (including the title), and you review their work. Often it is much easier to spot mistakes (grammatical, stylistic, structural etc.) in other people's work than in your own. But you can improve your critical skills of your own work if you become accustomed to critically evaluating other people's papers.

It is highly irritating for referees and editors when authors submit papers that do not respect the stylistic requirements of the journal. This is particularly true with regard to how you cite the literature both within the body of the paper and in the Literature Cited section.

This avoids referees from having to include in their report lists of small things that need changing. A paper for publication in a journal is very different from a thesis. When you wrote your thesis, you may not have been too worried about being completely accurate in the way you presented references and you may not have proof-read it very carefully – “in any case” you thought “no one is ever going to read it”. But people will read your manuscript, starting with the referees. If they find that you have cited papers in your introduction but not put them in the bibliography, or vice versa, or if they see spelling mistakes, they might think to themselves: this author has paid little attention to the form of the paper,

so there is a strong probability that their research suffers from the same level of unreliability.

Most journals reject large numbers of papers. In general, the higher the impact factor of a journal, the higher the risk of rejection. Don't be put off. The highest ranked journals also tend to have the fastest turnaround and may thus return your rejected paper quite quickly. The benefit to you is that you are likely to be given a peer review of an excellent standard, which should help you to revise your paper before submitting it elsewhere. See rejection as an opportunity for making your paper even better.

#### Take editorial comments seriously

There is a tendency to only take into account referees' comments that you agree with and to discount everything else. However, if a referee says that he/she cannot understand what you mean, there is a very good chance that readers will have the same problem.

#### Consider using a professional editing service

Consider having your paper corrected through a professional agency or native speaking peer (i.e. someone in the same field as you who has also had papers published). Having your paper revised is certainly a cost, but the cost involved is likely to be far less than 1% of the cost of actually carrying out the research. Yet a good revision will massively increase the chances of your paper being published.

It is wise not to entrust your paper simply into the hands of a local English teacher or the English-speaking husband/wife of a colleague. The fact of speaking or even teaching a language rarely qualifies a person to carry out the difficult task of proof-reading and editing a scientific text.

Some agencies will also give you advice on how to improve your paper in general, and thus act as a pre-refereeing service.

#### Don't forget the Acknowledgements

The Acknowledgements generally include one or more of the following.



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- Sources of funds.
- People who gave significant technical help (e.g. in the design of your experiment, in providing materials).
- People who gave ideas, suggestions, interpretations etc.
- The anonymous reviewers

It is a good idea to let the people that you wish to acknowledge see the exact wording of how you want to acknowledge them - they might think it is too effusive (or occasionally, insufficient).

The style of giving acknowledgements may be quite different from the style of the rest of the paper. For example, you can use the first person (*I, we*).

Keep your acknowledgements as short as possible, they are generally of little interest to anyone apart from those mentioned.

### **Write a good letter / email to accompany your manuscript**

If your English is poor in your email, the editor may suspect that the English will be poor in the manuscript too. This is not a good start. To learn how to write effective emails, see the companion volume: English for Academic Correspondence and Socializing.

### **Final check: spelling. Don't underestimate the importance of spelling mistakes**

Poor spelling is considered to be a huge embarrassment in the English-speaking world. Consequently, rightly or wrongly spelling is a major issue in international journals.

Referees have been known to initially reject a manuscript on the basis of incorrect spelling alone.

In any case, referees do not like to see spelling mistakes, and some may think that there is an implicit relation between not taking time to check your spelling and possibly not checking your data!

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Spelling checkers only pick up words that are not contained in their dictionaries. Mistakes and typos like the ones below would not normally be found because they are words that are in the dictionary.

The company was *funded* in 2010. (founded)

The samples were *weighted* and *founded* to be 100 g. (weighed, found) It was different *form* what was expected. (from)

Spell checkers may not be perfect, but they are very useful. Grammar checkers are also likely to find a few mistakes that you may not have noticed. They will help you find errors connected with subject verb agreement, word order, punctuation (before *which* and *and*, and with hyphenation between words), unnecessary passive forms etc.

## Unit – 4

### Syllabus:

### **Key skills for writing a title– an abstract – an introduction – review of literature**

What key skills are needed when writing a Title?

Every word in your title is important. So the key is to devise a title that:

- 1 will immediately make sense to the referee
- 2 will easily be found by a search engine or indexing system
- 3 will attract the right kind of readers rather than discouraging them, and will also catch the attention of browsers. Note 'attraction' does not mean resorting to newspaper-like head- lines, but simply containing those words that readers in your field would expect to find
- 4 does not consist of a string of nouns and will be immediately comprehensible to anyone in your general field
- 5 is short
- 6 has a definite and concise indication of what it is written in the paper itself. It is neither unjustifiably specific nor too vague or generic

The rules for writing good titles reflect the rules on writing skills:

### **Typical complaints of Referees:**

The title is too generic ("A general strategy"...): it should be more informative of the content of the manuscript (e.g. A procedure for the extraction of vitamin B from ...). The title is rather misleading: it mentions a specific pathology in a specific fruit (kiwi). However, the focus of the paper is on the pathology, the aspect of it being in kiwi seems secondary. As it stands, the title is just a sequence of nouns.

### **How can one generate a title?**

Think about the following questions:

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- What have I found that will attract attention?
- What is new, different and interesting about my findings?
- What are the 3–5 key words that highlight what makes my research and my findings unique?

On the basis of your answers you should be able to formulate a title.

### **How can one make title more dynamic?**

Every word (apart from articles and prepositions) included in the title should add significance.

For example: S1. \*A study of the factors affecting the trihydroxyindole procedure for the analysis of deoxyribonucleic acid

S2. \*An investigation into some psychological aspects of English pronunciation

The first seven words in S1 give the reader no information. S1 and S2 might be more dynamic and more concise if the initial redundant words were removed. Similar words that are often redundant are: inquiry, analysis, evaluation, and assessment.

### **How title make a claim?**

Many referees and journals editors do not appreciate authors who use the title to present their major conclusion and thus perhaps overstate the importance of their findings. For example:

The consumption of one apple per day precludes the necessity of using medical services

The above is what is known as a declarative title. It summarizes the author's most important findings, as a complete sentence (i.e. with subject – verb - object). It does so in a way that there seems to be no element of doubt. However, if the author's conclusions are only speculations, then such declarative titles are dangerous. This is because they give readers the initial idea that the issue has been settled and that what the author asserts is now scientific fact. The important thing is to ensure that the title reflects the truth and is supported by the rest of the paper.

### Are questions in titles a good way to attract attention?

The titles below highlight that a question can be formulated using an auxiliary (e.g. does, would, can, will) and using question words (e.g. why, when, what, which, why, who).

Does the ocean-atmosphere system have more than one stable mode of operation?

Titles with questions also work particularly well for abstracts submitted to conferences. They are generally much more informal and because of their question form they immediately get readers thinking about what the answer might be. They can also be original and fun, as highlighted by the last title. They thus tend to stand out from other titles and are more likely to attract attention.

### When is a two-part title a good idea?

In these cases the first part poses a question, which the second part answers. In other cases the second part acts as an explanation for the first part: Consequences of erudite vernacular utilized irrespective of necessity: problems of using long words needlessly

Ex: role of medicine: dream, mirage or nemesis

Ex: Telling more than we can know: Verbal reports on mental processes

Given that two-part titles are much less common than other titles they generally attract more attention, and like questions work well for abstracts submitted to conferences.

**punctuation of title:** The two parts of the titles in Ex: Old age: A study of diversity among men and women are separated by a colon. Some journals require a capital letter after a colon, as in the example. Titles never end with a period (.), but if they are questions, then there should be a question mark at the end Examples : Why Do Some Countries Produce So Much More Output Per Worker Than Others? Does the ocean-atmosphere system have more than one stable mode of operation?

**Capitalize a Title:** There are basically two ways to capitalize a title. The first is to capitalize each initial letter, apart from articles (a, an, the) and prepositions (e.g. on, by, in, of). The other is just to capitalize the first letter of the first word, and then to

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have all the other words in lower case. Of course, if the word is a proper noun, then this should have an initial capital letter too.

**Words to include in Title:** Where possible use the -ing form of verbs rather than abstract nouns. This will make your title more readable as well as making it 2–3 words shorter. The key words in your title are likely to be nouns. So choose these nouns very carefully. Try to choose adjectives that indicate the unique features of your work, e.g. low cost, scalable, robust, powerful. Adjectives such as reliable should only be used if work in your field has so far only produced an unreliable system or unreliable results.

### Adjectives in the Title:

This is because the other words in the title should enable readers to understand whether your work is innovative or not, without you having to use *innovative* and *novel* to tell them so. The problem with *novel* and *innovative* is that they give no indication as to how something is novel. For example, what does *novel* mean in the following title? A novel method for learning English.

More explicit adjectives to replace novel could be: computerized, guaranteed, high-performance, low-cost, minimal- stress, no-cost, pain-free.

**shorter title:** Titles are often constricted by the number of characters that can be used (check with your journal to see how many words or characters you can use). In some cases you can keep your title as it is but reduce it in length simply by replacing the non-key words with shorter synonyms.

**Examples:** Long verbs- short verbs

Achieve-gain

Calculate- assess

Evaluate-rate

**Long nouns- short nouns**

advantages- benefits/ Pros

improvement-advance

modification-change

The most obvious ways to make your title shorter are to:

- choose the shortest word
- remove redundant words
- use verbs rather than nouns

**Prepositions in the Title:** Most titles of more than about five words require prepositions. some examples explain the typical meanings of prepositions in titles, with and without prepositions

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by how something is done- Equation of state calculations *by* fast computing machines

for for the purpose of- An inventory *for* measuring depression

Even if you don't understand the exact meaning of the titles, the important thing to note is that the use of prepositions helps the reader to understand how the various elements in the title are related to each other. Also note that rewriting a title so that it contains prepositions may involve adding *a/an* or *the*.

### **Spell checks in the Title:**

The problem in this case is that you as the author may be incredibly familiar with the title of your paper, it may even have been the title of your Masters or PhD thesis. This means that you are unlikely to check for possible errors. Given that you may not be able to see your own spelling mistakes, it is a good idea to show your title to several other people, firstly to get them to check the spelling but more importantly to get some feedback on whether your title is clear and explicit enough.

In a research paper, poor spelling gives the idea that you did not make the effort to check your paper. By extension, if you did not check your spelling there is a chance you did not check your data. Perhaps for this reason referees seem obsessed with finding and reporting spelling mistakes. If they find more than one or two this may cause them to recommend that publication of your paper should be delayed until the paper has been thoroughly proof read. Another major reason for checking the spelling in your title, is that if a key word (e.g. Alzheimer's) is misspelled or not punctuated correctly (note the apostrophe before the s), then search engines will not be able to find it.

### [Key skills for writing an Abstract](#)

The key skills are to write an Abstract in a way that will enable:

- editors to make a quick decision on whether the paper is relevant to their journal (without having to read the whole paper) and is thus worth submitting to referees who will then judge the paper in its entirety
- a reader to identify quickly what the paper is about, to judge how relevant it is to their interests, and so to decide whether they should buy / read the whole paper or

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not. This process is sometimes known as 'screening'

- information managers (e.g. librarians) to put it in their indexes

Online journals have databases of abstracts. Your job as a writer is to 'sell' your abstract to potential readers by:

- attracting their curiosity and stimulating them to want to read the complete paper
- writing very clear and short sentences (max. 25 words, unless the sentence contains a list)

First impressions are very important. If your paper makes a bad initial impression, there is a very strong chance that the reader will quickly stop reading. It will also have a negative effect on referees - if they struggle to read your Abstract or Introduction, this will impact on their reading of the rest of the paper. They will expect the rest of the paper to be difficult too, and may only look for evidence that confirms this initial impression, even if the rest of the paper is in fact quite readable.

What is an abstract? How long should it be?

There are four main types of abstracts, all of which summarize the highlights of your research and all of which will be judged in isolation from the accompanying paper (if there is one). Abstracts are sometimes called Summaries. Abstracts are found before a full article in a journal, standalone in databases of abstracts, and in conference programs.

### **Unstructured Abstract:**

A single paragraph of between 100–250 words containing a very brief summary of each of the main sections of your paper

### **Structured Abstract:**

The same as summaries but divided into several short sections. Structured abstracts, which look like mini-papers, are becoming more and more popular. They are typically found in medicine, but also in economics, natural sciences and other areas. Most authors agree that the structured format helps them to write clearer abstracts. Structured abstracts also force the author to answer all the questions



(including limitations to their research) that referees and readers are likely to ask. In addition, they are much more readable as referees (for their peer reviews) and readers can find exactly what they want quickly. As with all abstracts, it is very important that you follow the journal's instructions to authors which will tell you what sections to include in your abstract and what style to adopt. This sort of abstract tends to be longer (up to 400 words) and is often written as a series of points, though full sentences with verbs are always used in the Results and Conclusions.

**Extended Abstract:** A mini paper organized in the same way as a full paper (e.g. Introduction, Methods, Discussion...), but substantially shorter (two to four pages). Depending on the journal, conference or competition, the extended abstract may or may not include an abstract – for example, it may begin directly with an introduction

**Conference Abstract:** Normally a standalone abstract (sometimes up to 500 words), designed to help conference organizers to decide whether they would like you to make an oral presentation at their conference. An abstract for a journal has to be relevant to the specialization of that journal.

Likewise, an abstract for a conference must really fit the conference theme. This point is absolutely essential. Occasionally in the rush to organize the conference the editorial board may initially accept your abstract on the basis that it sounds interesting. Then a few months later when you send them your full version, the editors may realize that it does not actually fit the theme. So if it doesn't fit, choose another conference. Try to ensure that your abstract will not just be enticing for the editorial board but also that it will be suitable for publishing in the conference handbook / proceedings. Your title should be interesting but not too obscure or too colloquial / witty.

The type of abstract you choose and the format to use will depend on the journal or conference. Make sure you read their instructions to authors before you begin writing.

### **When should one write the Abstract?**

Write a rough draft of the abstract before you start writing the paper itself. This may help you to decide what to include in the paper and how to structure it. But experienced writers always write the Abstract (and often the Introduction too) last,

i.e. when they have finished the rest of the paper. This reflects the research process itself - the first thing you write about is what you found, then how this can be interpreted.

In any case, and as with the whole paper, you must have a clear idea of your intended audience. **How should one structure an Abstract?**

An Abstract generally answers at least the first three of the following questions, and generally in the following order. You can use the answers to these questions to structure your Abstract.

- Why did I carry out this project? Why am I writing this paper?
- What did I do, and how?
- What were my results? What was new compared to previous research?
- What are the implications of my findings? What are my conclusions and/or recommendations?

Although the style of an abstract may differ from discipline to discipline and from journal to journal, the structure and information provided is quite similar. The aim is always to tell readers all they need to know to help them decide whether to buy / read the paper. Abstracts from social and behavioral sciences tend to devote more space to back- ground issues and context setting. The 'thesis' is often formulated as a series of questions that inform the reader about what issues will be dealt with in the paper.

In any case your abstract should include the following:

- background information
- your aim and its importance
- your contribution and its value
- what you looked at
- your conclusions and implications

As with all abstracts of all disciplines, when you are writing a review you need

to tell audience what your primary objective is. Given that you will not have space to review every paper in the literature, you should then explain your reasons for selecting certain papers. Your 'results' are your findings drawn from analyzing the literature. Finally, for your review to have a real purpose you will want to state your conclusions and what implications they have for further research in your field. So once again your structure is: aim, methodology (selection process), results, conclusions, and implications.

There are four possible styles for writing abstracts and papers: The style you use will depend on your discipline and on the requirements of the journal. Using the first person singular (Style 1), is generally only found in humanistic fields where the author's opinions are often outlined.

Style -1: I found that  $x = y$ .

Style -2 is found in all fields.

Style- 2: We found that  $x = y$ .

Style -3 is also very common and many journals insist on this style

Style- 3: It was found that  $x = y$ .

Style -4 is the least common style.

Style -4: The authors found that  $x = y$ .

The most commonly used tenses in abstracts are the Present Simple (we show) and the Past Simple. In fact, he uses only the Present Simple. Even though his research has already been done (thus the investigation is complete), he uses the Present Simple, because he wants to make his abstract sound more dynamic and his conclusions more convincing. However, in the paper itself he uses the Past Simple to describe what he did and found.

The author of the "scientific English" abstract (Style 1) ends his abstract by using the Present Perfect (which have not been faced to date). You can use the Present Perfect and the Present Perfect Continuous when you describe a situation that began in the past and is still true now. This is typical when you are giving the con- text / background.

**What should one not mention in an Abstract?**

You should try to avoid:

- background information that is too generalist for your readers
- claims that are not supported in the paper
- terms that are too technical or too generic - this will depend on your audience
- definitions of key terms
- mathematical equations
- generic quantifications (e.g. many, several, few, a wide variety) and the overuse or unjustified use of subjective adjectives (e.g. innovative, interesting, fundamental).
- unnecessary details that would be better located in your Introduction, such as the name of your institute, place names that readers will not have heard of
- references to other papers. However, if your whole paper is based on an extending or refuting a finding given by one specific author, then you will need to mention this author's name.

**Key skills for writing an Introduction**

The Introduction presents the background knowledge that readers need so that they can appreciate how the findings of the paper are an advance on current knowledge in the field. A key skill is to be able to say the same things that have been said many times before but in a different, interesting, intriguing way. You have to give the reader the tools for understanding the meaning and motivation of your experiments. Tell your readers how you plan to develop your topic. Give them a roadmap to follow - show them what your line of argument is. You need to have a deep knowledge about everything that has been previously written on the topic and decide what is important for the reader to know.

**Structure of the Introduction:** An Introduction generally answers the following questions. You can use the answers to these questions to structure your Introduction.

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- What is the problem?
- Are there any existing solutions (i.e. in the literature)?
- Which solution is the best?
- What is its main limitation? (i.e. What gap am I hoping to fill?)
- What do I hope to achieve?
- Have I achieved what I set out to do?

### **How should one begin an Introduction?**

Your aim is to include only enough background information to allow your reader to understand why you are asking the questions you are, in what context they appear, and why your hypotheses, predictions or expected results are reasonable. It is like a preview to the rest of the paper. Thus, nearly every Introduction, irrespectively of the discipline, would incorporate those parts marked with an asterisk (\*). The proportion of space given to each part (particularly with regard to the review of the literature) will obviously vary from discipline to discipline, and from paper to paper.

PART- 1: DEFINITION OF THE TOPIC PLUS BACKGROUND

PART- 2: ACCEPTED STATE OF THE ART PLUS PROBLEM TO BE RESOLVED

PART- 3: AUTHORS' OBJECTIVES

PART- 4 : INTRODUCTION TO THE LITERATURE

PART- 5 : SURVEY OF PERTINENT LITERATURE

PART -6 : AUTHORS' CONTRIBUTION

PART- 7: AIM OF THE PRESENT WORK

PART -8: MAIN RESULTS OF THE PRESENT WORK

PART -9: FUTURE IMPLICATIONS OF THE WORK

PART -10 : OUTLINE OF STRUCTURE

The Present Simple is generally used to begin the Introduction in order to describe the general background context, i.e. what is known already. The Present Perfect is then used to show how the problem has been approached from the past until the present day.

## **Key skills for writing Review of the Literature**

### key skills needed when writing a Review of the Literature:

The key skill is to provide readers with just the right amount of literature regarding the sequence of events leading up to the current situation - not too much to make it tedious, nor too little so that the context of your research is not meaningful to them. The background information is useful because it allows you to:

- Systematically elaborate the achievements and limitations of other studies
- Relate your new facts and data to these studies

The amount of detail you need to give varies immensely from discipline to discipline. In some disciplines you may be required to have a very strong theoretical framework for your study, thus requiring two or more pages.

other disciplines just one paragraph may be enough. So another skill is to take into account readers who are up to date with your research area and thus not to delay giving the new information for too long. What key skills are needed when writing a Review of the Literature?

The key skill is to provide readers with just the right amount of literature regarding the sequence of events leading up to the current situation - not too much to make it tedious, nor too little so that the context of your research is not meaningful to them. The background information is useful because it allows you to:

- Systematically elaborate the achievements and limitations of other studies
- Relate your new facts and data to these studies

The amount of detail you need to give varies immensely from discipline to discipline. In some disciplines you may be required to have a very strong theoretical framework for your study, thus requiring two or more pages. In other disciplines just one paragraph may be enough. So another skill is to take into account readers who are up to date with your research area and thus not to delay giving the new information for too long.

Structure of Review of the Literature: A Literature Review generally answers the

following questions, and generally in the following order. You can use the answers to these questions to structure your Literature Review.

1. What are the seminal works on my topic? Do I need to mention these?
2. What progress has been made since these seminal works?
3. What are the most relevant recent works? What is the best order to mention these works?
4. What are the achievements and limitations of these recent works?
5. What gap do these limitations reveal?
6. How does my work intend to fill this gap?

The first sentence of the first paragraph introduces the main topic (cultural differences), and the rest of the paragraph briefly reviews a major study on this topic. The implications of this study (culture as the remaining variable) are summarized at the end of the paragraph. The Present Simple or Present Perfect are generally used to introduce the literature review. Use the Present Perfect again to refer to ongoing situations, i.e. when authors are still investigating a particular field. The researchers are still working on today and will continue in the future.

You must use the Past Simple when: The year of publication is stated within the main sentence (i.e. not just in brackets). You mention specific pieces of research (e.g. you talk about initial approaches and methods that have subsequently probably been abandoned)

- You state the exact date when something was written, proved etc.

Redundancy is often high in the review of the literature, if you always refer to the literature it will create a series of unnecessarily long sentences with considerable redundancy. This makes it hard for the reader to immediately identify the key points of the literature. This is because the reader knows from the reference ([Ref]) at the end of the sentence that you are discussing another author's work or one of your previous papers. Sometimes in the Literature Review you want your readers to note the strong features of your work and the limitations of previous works by other authors.

## **UNIT –V**

### **Key skills for writing methodology – results- discussions - conclusions**

The main aim of research is not merely to gather information. The true goal of research is to seek answers to previously unanswered questions to contribute to the body of knowledge in a discipline. Methodology in research is defined as the systematic method to resolve a research problem through data gathering using various techniques, providing an interpretation of data gathered and drawing



conclusions about the research data.

Writing a methodology is an essential part of presenting research findings. Your methodology is a detailed description of the research process you used to support your findings and it explains your techniques and creates a roadmap for how you reached your conclusions. A well-written methodology not only describes the tactics you used but also presents the case for why you chose the methods you used.

### **Importance of methodology:**

Sharing your methodology gives legitimacy to your research. An unreliable or erroneous methodology produces unreliable or erroneous results. The reader of your research expects you to have followed accepted practices so that the conclusions you reach are valid. The methodology you report needs to be repeatable, meaning anyone who uses the methods you write about should reach the same conclusions you reached.

It is the most important section of any research paper because it determines the empirical validity of the study. Methodologies need to explain how results were obtained, and they should allow a researcher in that field to repeat the study.

Editors or reviewers reject papers when they consider that the research methods used are not appropriate or not strong enough. For the *Tourism & Management Studies* journal, methodologies are given first-class status, and any paper is rejected that does not use proper methods (at least in the reviewers and editors' opinion) in answering the research question and accomplishing its objectives. While there may be an opportunity to re-analyses the results, perhaps using more appropriate statistical tests, the methods cannot be changed without re-doing the research: what is done is done. You need to write about the methods in the past tense with adequate detail to repeat the study design and validate results. Provide details of the selection and description of study participants, data collection processes and methods used in analyses. When in doubt, provide more (rather than fewer) details.

Any research problem to be solved needs appropriate methods, depending on the topic and research field. In some cases, qualitative research methods may be adequate, while in other cases, quantitative methods are required. Another possibility is to use a combination of methods.

Qualitative research methods are traditionally used in social sciences, and they use smaller samples aimed at achieving an in-depth understanding of human behavior. The most common is interviews, which can be structured, semi-structured or unstructured. These data samples do not allow extrapolation to entire populations, but they can be important in formulating hypotheses that can be tested in another step using quantitative data. In fact, qualitative and quantitative methods are quite compatible, and they can be used in mixed-method approaches. Triangulation is the use of a combination of two or more research methods in the study of the same phenomenon in order to validate data through cross verification and to enhance confidence in results. In most cases, this is the preferred methodology in social sciences.

When using quantitative methods, you need to explain the size of the sample of the statistical population under study and the procedures for selecting this sample. Specify if the sample is statistically representative, allowing inferences from the sample to the general population. You should use appropriate methods to calculate ideal sample sizes. When you cannot work with a random sample, you need to work with a sample that is as representative as possible: the more representative, the better. One strong reason for rejecting a paper is if editors or reviewers consider that the sample used is not ideal. In this case, the validity of the study is restricted to the group of individuals who constitute the sample.

A pilot test is quite important for evaluating feasibility and making all necessary corrections or improvements to surveys, before you carry out any large-scale quantitative research. At least one of the authors needs to have an in-depth knowledge of research methods and statistics. When applicable, it is important to enlist the help of a statistician at the outset to determine sample size, power analysis and appropriate statistical methods

**Difference between methods and methodology:**

Methodology is the overall strategy of your research. Methods are procedures like surveys and experiments that you use to collect and analyse your data.

The confusion between “methodology” and “methods” in research is a common occurrence, especially with the terms sometimes being used interchangeably. Methods and methodology in the context of research refer to two related but different things: method is the technique used in gathering evidence; methodology, on the other hand, “is the underlying theory and analysis of how research does or should proceed.” Few writers define methodology as “a set of principles and ideas that inform the design of a research study.” Meanwhile, methods are “practical procedures used to generate and analyse data.

<i>Methodology</i>	<i>Method</i>
The main objective of the methodology is to identify and understand the methods applied in the research.	The main objective of the method is to find a solution to the outlined problem.
The methodology is a proper study or analysis of all the methods used in the research.	Methods are simply behaviour or tools used to select research techniques.
The methodology is applied at the initial stage of the research/study.	Methods are used and applied at a later stage of the study/ research.
A methodology is a systematic approach to finding a solution to a problem.	Methods are a combination of different investigation and comparison techniques.

**How to write an effective methodology section:**

- **Introduce your methods.** Introduce the methodological approach used in investigating your research problem. In one of the previous sections, your methodological approach can either be quantitative, qualitative, or mixed methods. Look for a methodology in research example that you can use as a

reference.

- **Establish methodological connection.** Explain the relevance of your methodological approach to the overall research design. Keep in mind that the connection between your methods and your research problem should be clear. This means that your methodology of research must be appropriate to achieve your paper's objective—to address the research problem you presented. To wit, if you need help to write your research problem.
- **Introduce your instruments.** Indicate the research instruments you are going to use in collecting your data and explain how you are going to use them. These tools and instruments can be your surveys, questionnaires for interviews, observation, etc. If your methods include archival research or analysing existing data, provide background information for documents, including who the original researcher is, as well as how the data were originally created and gathered. Keep in mind that aside from your methodology in research paper, the identification of the research instrument is equally significant.
- **Discuss your analysis.** Explain how you are going to analyse the results of your data gathering process. Depending on your methodology, research for ways on how you can best execute your study either by using statistical analysis or exploring theoretical perspectives to support your explanation of observed behaviours.
- **Provide background information.** When using methods that your readers may be unfamiliar with, make sure to provide background information about these methods. It would also help if you can provide your research methodology meaning so you can present a clear and comprehensive research context.
- **Discuss sampling process.** Sampling procedures are vital components of your methodology. Explain the reason behind your sampling procedure. For example, if you are using statistics in your research, indicate why you chose this method as well as your sampling procedure. If you are going to do interviews, describe how you are going to choose the participants and how the interviews will be conducted.
- **Address research limitations.** Make sure to address possible limitations you may encounter in your research, such as practical limitations that may affect your data gathering process. If there are potential issues you anticipate

encountering in the process, indicating your reason why you still decide to use the methodology despite the risk.

### **What to avoid in writing the methodology section of your research?**

- Avoid including irrelevant details.
- Keep your methodology section straightforward and thorough. Details that do not contribute to the readers' understanding of your chosen methods should not be included in your methodology section.
- Irrelevant information includes unnecessary explanations of basic procedures. Basic procedures should only be explained if they are unconventional and unfamiliar to the readers.
- Do not ignore the problems you might encounter during the data gathering process. Instead of turning a blind eye, describe how you handled them.

### **Discussion of results (or findings)**

The results section is a critical part of the manuscript. The presentation of results is the outcome of the application of methods to primary or secondary research resources. Some basic rules can help you to present your results in the best possible way:

- Interpret results and their implications, instead of simply presenting them in a descriptive way;
- Use primary data, which is more relevant than secondary data;
- Use a combination of text and visual aids such as graphs, tables or figures – these need to be well designed in order to make sure the reader understands the results more easily. Presenting the data in graphs has the advantage of clarity and impact, and it can bring out relationships between various parameters;
- Keep graphs (or other visual aids) simple;
- Do not repeat information presented in tables and figures in the text; instead, analyse data in qualitative terms without being repetitive;
- Check that tables, graphs and figures are correctly labelled with numbers and titles and that they are cited in the previous paragraph; make sure that you

indicate the source of your data;

- Write results in the past tense, in a logical sequence;
- Match the arrangement of data to the methodology and communicate as much information as is relevant;
- Do not omit unexpected results or results that do not satisfy your hypotheses; report them and discuss your analysis;
- Avoid abbreviations, if possible, but define them if used;

The results and discussion sections are one of the challenging sections to write. It is important to plan this section carefully as it may contain a large amount of scientific data that needs to be presented in a clear and concise fashion. The purpose of a Results section is to present the key results of your research. Results and discussions can either be combined into one section or organized as separate sections depending on the requirements of the journal to which you are submitting your research paper. Use subsections and subheadings to improve readability and clarity. Number all tables and figures with descriptive titles. Present your results as figures and tables and point the reader to relevant items while discussing the results. This section should highlight significant or interesting findings along with P values for statistical tests. Be sure to include negative results and highlight potential limitations of the paper. You will be criticised by the reviewers if you don't discuss the shortcomings of your research. This often makes up for a great discussion section, so do not be afraid to highlight them.

Useful Phrases of the results and discussion section of your research paper:

- Findings
- Comparison with prior studies
- Limitations of your work
- Casual arguments
- Speculations
- Deductive arguments

## 1. Findings

From the short review above, key findings emerge: \_\_

We describe the results of \_\_, which show \_\_

This suggests that \_\_

We showed that \_\_

Our findings on \_\_ at least hint that \_\_  
 This is an important finding in the understanding of the \_\_  
 The present study confirmed the findings about \_\_  
 Another promising finding was that \_\_  
 Our results demonstrated that \_\_  
 This result highlights that little is known about the \_\_  
 A further novel finding is that \_\_  
 Together, the present findings confirm \_\_  
 The implications of these findings are discussed in \_\_  
 The results demonstrate two things. First, \_\_. Second, \_\_  
 The results of the experiment found clear support for the \_\_  
 This analysis found evidence for \_\_  
 Planned comparisons revealed that \_\_  
 Our results casts a new light on \_\_  
 This section summarises the findings and contributions made.  
 It performs well, giving good results.  
 This gives clearly better results than \_\_  
 The results confirm that this a good choice for \_\_  
 From the results, it is clear that \_\_  
 In this section, we will illustrate some experimental results.  
 This delivers significantly better results due to \_\_  
 The result now provides evidence to \_\_  
 It leads to good results, even if the improvement is negligible.  
 This yields increasingly good results on data.  
 The result of this analysis is then compared with the \_\_  
 The applicability of these new results are then tested on \_\_  
 This is important to correctly interpret the results.  
 The results are substantially better than \_\_  
 The results lead to similar conclusion where \_\_  
 Superior results are seen for \_\_  
 From these results it is clear that \_\_  
 Extensive results carried out show that this method improves \_\_  
 We obtain good results with this simple method.  
 However, even better results are achieved when using our algorithm.  
 It is worth discussing these interesting facts revealed by the results of \_\_  
 Overall, our method was the one that obtained the most robust results.  
 Slightly superior results are achieved with our algorithm.  
 The result is equal to or better than a result that is currently accepted.

## 2. Comparison with prior studies

The results demonstrated in this chapter match state of the art methods.  
 Here we compare the results of the proposed method with those of the traditional methods.  
 These results go beyond previous reports, showing that \_\_  
 In line with previous studies \_\_  
 This result ties well with previous studies wherein \_\_  
 Contrary to the findings of \_\_ we did not find \_\_  
 They have demonstrated that \_\_  
 Others have shown that \_\_ improves \_\_

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By comparing the results from \_\_, we hope to determine \_\_  
 However, in line with the ideas of \_\_, it can be concluded that \_\_  
 When comparing our results to those of older studies, it must be pointed out that \_\_  
 We have verified that using \_\_ produces similar results  
 Overall these findings are in accordance with findings reported by \_\_  
 Even though we did not replicate the previously reported \_\_, our results suggest that \_\_  
 A similar conclusion was reached by \_\_  
 However, when comparing our results to those of older studies, it must be pointed out \_\_  
 This is consistent with what has been found in previous \_\_  
 A similar pattern of results was obtained in \_\_  
 The findings are directly in line with previous findings  
 These basic findings are consistent with research showing that \_\_  
 Other results were broadly in line with \_\_

### 3. Limitations of your work

Because of the lack of \_\_ we decided to not investigate \_\_  
 One concern about the findings of \_\_ was that \_\_  
 Because of this potential limitation, we treat \_\_  
 The limitations of the present studies naturally include \_\_  
 Regarding the limitations of \_\_, it could be argued that \_\_  
 Another limitation of this \_\_  
 This limitation is apparent in many \_\_  
 Another limitation in \_\_ involves the issue of \_\_  
 The main limitation is the lack of \_\_  
 One limitation is found in this case.  
 One limitation of these methods however is that they \_\_  
 It presents some limitations such as \_\_  
 Although widely accepted, it suffers from some limitations due to \_\_  
 An apparent limitation of the method is \_\_  
 There are several limitations to this approach.  
 One limitation of our implementation is that it is \_\_  
 A major source of limitation is due to \_\_  
 The approach utilised suffers from the limitation that \_\_  
 The limitations are becoming clear \_\_  
 It suffers from the same limitations associated with a \_\_

### 4. Casual arguments

A popular explanation of \_\_ is that \_\_  
 It is by now generally accepted that \_\_  
 A popular explanation is that \_\_  
 As it is not generally agreed that \_\_  
 These are very small and difficult to observe.  
 It is important to highlight the fact that \_\_  
 It is notable that \_\_  
 An important question associated with \_\_ is \_\_



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This did not impair the \_\_  
 This is important because there is \_\_  
 This implies that \_\_ is associated with \_\_  
 This is indicative for lack of \_\_  
 This will not be biased by \_\_  
 There were also some important differences in \_\_  
 It is interesting to note that, \_\_  
 It is unlikely that \_\_  
 This may alter or improve aspects of \_\_  
 In contrast, this makes it possible to \_\_  
 This is particularly important when investigating \_\_  
 This has been used to successfully account for \_\_  
 This introduces a possible confound in \_\_  
 This was included to verify that \_\_

## 5. Speculations

However, we acknowledge that there are considerable discussions among researchers as to \_\_  
 We speculate that this might be due to \_\_  
 There are reasons to doubt this explanation of \_\_  
 It remains unclear to which degree \_\_ are attributed to \_\_  
 However, \_\_ does seem to improve \_\_  
 This does seem to depend on \_\_  
 It is important to note, that the present evidence relies on \_\_  
 The results show that \_\_ does not seem to impact the \_\_  
 However, the extent to which it is possible to \_\_ is unknown  
 Alternatively, it could simply mean that \_\_  
 It is difficult to explain such results within the context of \_\_  
 It is unclear whether this is a suitable for \_\_  
 This appears to be a case of \_\_  
 From this standpoint, \_\_ can be considered as \_\_  
 To date, \_\_ remain unknown  
 Under certain assumptions, this can be construed as \_\_  
 Because of this potential limitation, we treat \_\_  
 In addition, several questions remain unanswered.  
 At this stage of understanding, we believe \_\_  
 Therefore, it remains unclear whether \_\_  
 This may explain why \_\_

## 6. Deductive arguments

A difference between these \_\_ can only be attributable to \_\_  
 Nonetheless, we believe that it is well justified to \_\_  
 This may raise concerns about \_\_ which can be addressed by \_\_  
 As discussed, this is due to the fact that \_\_  
 Results demonstrate that this is not necessarily true.  
 These findings support the notion that \_\_ is not influenced by \_\_  
 This may be the reason why we did not find \_\_

(20AOE9901)

In order to test whether this is equivalent across \_\_, we \_\_  
Therefore, \_\_ can be considered to be equivalent for \_\_

## **A Conclusion:**

A conclusion is the final paragraph of a research paper. It serves to help the reader understand why your research should matter to them. The conclusion of a conclusion should:

- Restate your topic and why it is important
- Restate your thesis/claim
- Address opposing viewpoints and explain why readers should align with your position
- Include a call for action
- or overview of future research possibilities

Types of conclusions for research papers:

Depending on your research topic and the style of your paper, you may choose to write your conclusion according to specific types. There are three main types of conclusions:

1. Summarizing conclusion: A summarizing conclusion is typically used for giving a clear summary of the main points of your topic and thesis. This is considered the most common form of conclusion, though some research papers may require a different style of conclusion.
2. Externalizing conclusion: An externalizing conclusion presents points or ideas that may not have been directly stated or relevant to the way you presented your research and thesis. However, these types of conclusions can be effective because they present new ideas that build off of the topic you initially presented in your research.
3. Editorial conclusion: In an editorial conclusion, you are presenting your own concluding ideas or commentary. This type of conclusion connects your thoughts to the research you present. You might state how you feel about outcomes, results or the topic in general.

Here are important rules to follow in the conclusions section:

- Link your conclusions with the introduction – conclusions must have a direct relationship to the objectives stated in the beginning of the paper and answer the research question(s) and objectives, as well as confirm or refute hypotheses;
- Compare your conclusions to previous research and point out implications and contributions of your paper to advancing knowledge in your field of research;
- Avoid any repetition of results presented in the previous section and any ambiguity or speculation;

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- Make your conclusions solid, synthetic, brief, clear and convincing;
- Explain study limitations and make recommendations for future research.

## References

You need to structure the list of references according to your target journal's guidelines. This is one of the sections that require the most attention and control by editors and the one that usually presents the highest number of inaccuracies. Authors and journals cannot publish papers with missing or incomplete references without compromising their reputation.

There are different styles for organizing and presenting references. The most common in social sciences is probably the APA style. If you cannot afford to buy the Publication Manual of the American Psychological Association (the most accurate and complete document on the subject), it is advisable to check out materials on APA style guides that are available on the Internet. In organizing your list of references, here are some important rules to follow:

- Follow journal guidelines;
- Include only references cited within the text;
- Double-check references for accuracy;
- Ensure that all information in the references list is complete and accurate;

## Useful phrases of Conclusion section:

### 1. Acknowledgements

The authors gratefully acknowledge the financial support of \_\_

The authors acknowledge the infrastructure and support of \_\_

The authors would like to thank \_\_

The work was supported by the \_\_

The authors very much appreciate the support by the \_\_

The authors appreciate the unknown referee's valuable and profound comments.

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The authors thank \_\_ for discussions on \_\_

## 2. Appendix

For interested readers a detailed description is presented in the Appendix \_\_

Further description is available in the Appendix or from the author\_\_

Complete data is available in \_\_

Supplementary data associated with this article can be found, in the online version, at \_\_

The full colour images can be found in the on-line version, at \_

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