

**Ministry of Higher Education and Scientific  
Research**

**University of Baghdad**

**College of Science**

**Department of Biology**



# **طرائق كتابة البحث العلمي**

**2020/2021**

**المرحلة – الماجستير/الدكتوراه**

**الفصل الدراسي الثاني**

**تدريسي المادة :**

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## Lecture1: Research Project: An Overview

### The Research cycle

مراحل البحث تشمل ايجاد موضوع البحث-تصميم البحث -تنفيذ البحث – تحليل النتائج –نشر نتائج البحث، يجب ان يكون لطالب الدراسات العليا مساهمة فعلية في كل مرحلة من مراحل الدراسة

Allows the students to:

- ✓ design,
- ✓ plan,
- ✓ execute,
- ✓ analyse
- ✓ and finally publish their research ideas (by writing a journal article, oral presentation or poster



### What Types of Research Projects are there?

- 1- Laboratory project
- 2- Literature project
- 3- Meta-analysis project
- 4- Intervention project
- 5- Questionnaire project
- 6-Data analysis project

### Extensive Literature Survey

Once the problem is formulated the researcher should undertake extensive literature survey connected with the problem.

بعد ان يحدد موضوع البحث «المشكلة البحثية»، على الباحث مراجعة ودراسة الأدبيات العلمية «بجوث -كتب -مؤتمرات - «تقارير حكومية لها علاقة بالموضوع

## Development of Working Hypothesis

After extensive literature survey,

researcher should state in clear terms the working hypothesis or hypotheses.

Working hypothesis is tentative assumption made in order to draw out and test its logical or empirical consequences.

It's very important or it provides the focal point for research.

بعد مراجعة ودراسة الأدبيات العلمية «المصادر» على الباحث ان يحدد الفرضية الخاصة بدراسته وتحديد الأسس التي تركز عليها الدراسة الهدف «الغرض» من اجراء الدراسة

## Experimental Design



## Collecting the Data:

There are several ways of collecting the appropriate data which differ considerably in context of cost, time and other resources at the disposal of the researcher.

Primary data can be collected either through experiment or through survey

## Analysis of Data

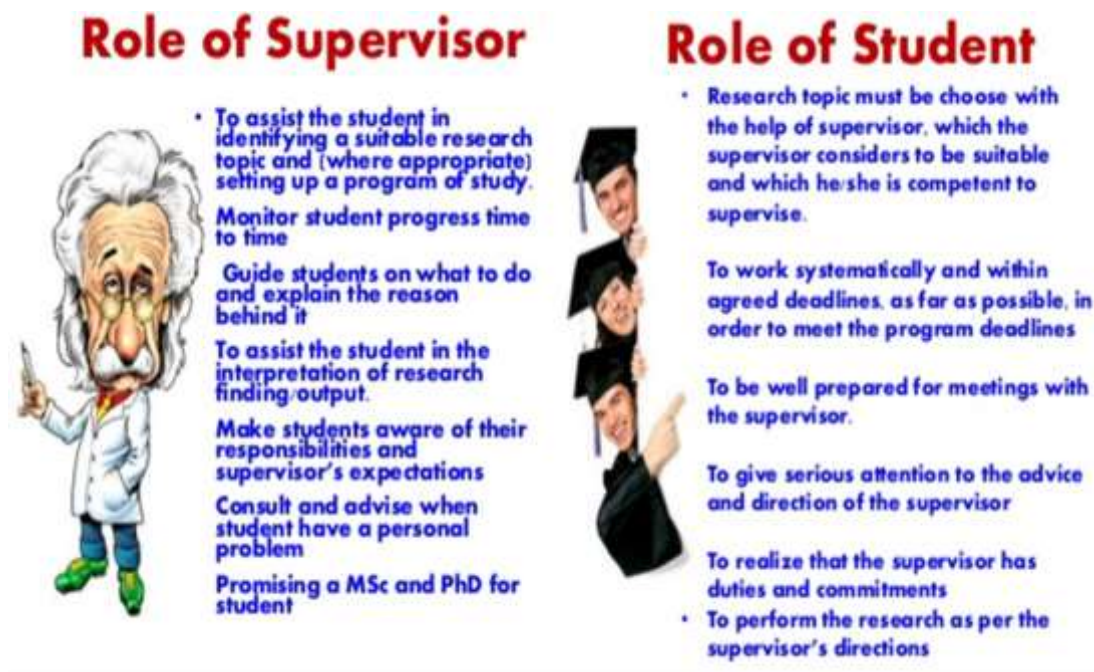
- The analysis of data requires a number of closely related operations such as **establishment of categories**, the application of these categories to raw data through coding, **tabulation** and then **drawing statistical inference**.
- In the process of analysis, relationships of differences supporting or conflicting with original or new hypothesis should be subjected to **tests of significance** to determine with what validity data can be said to indicate any conclusions.

## Generalizations and Interpretation

If a hypothesis is tested and upheld several times, it may be possible for the researcher to arrive at generalization i.e. to build a theory.

If the researcher had no hypothesis to start with, he might seek to explain his findings on the basis of some theory. It is known as interpretation

## Student-Supervisor Responsibility



## Supervisor Meetings

In a formal meeting provide an agenda of items to be discussed,

Have one or two questions for discussion,

Inform your supervisor in advance.

Ask yourself do I really need a meeting,

Could I use e-mail

Take notes during the meeting if you wish.

**Before you leave:**

**agree on action point of what will be done by whom and when.**

## **Notebook**

**The notebook is a key for recording exactly what you did in a chronological order to:**

prove you did the work and when, the work can be repeated by you and others.

Never be compiled after the event as you will forget information or lose the piece of toilet paper you wrote your great idea upon.

Updated record is to use them in your supervisor meetings as a notebook.

## **Preparation of the Report or the Thesis:**

Finally, the researcher has to prepare the report of what has been done by him/her.

The preliminary pages carry title, acknowledgements and forward and then index.

The main text of the report should have :

introduction, review of literature, methodology, results & discussion, and  
Conclusions & recommendations

- **Hours and Requesting Equipment**  
Plan how long the work will take before starting work,
- Plan to arrive early with your day planned ahead, make space for breaks and lunch.
- If you will need equipment, check what in advance how much noticed is required,
- do not be surprised that you cannot do any work because the equipment you suddenly need is being used elsewhere

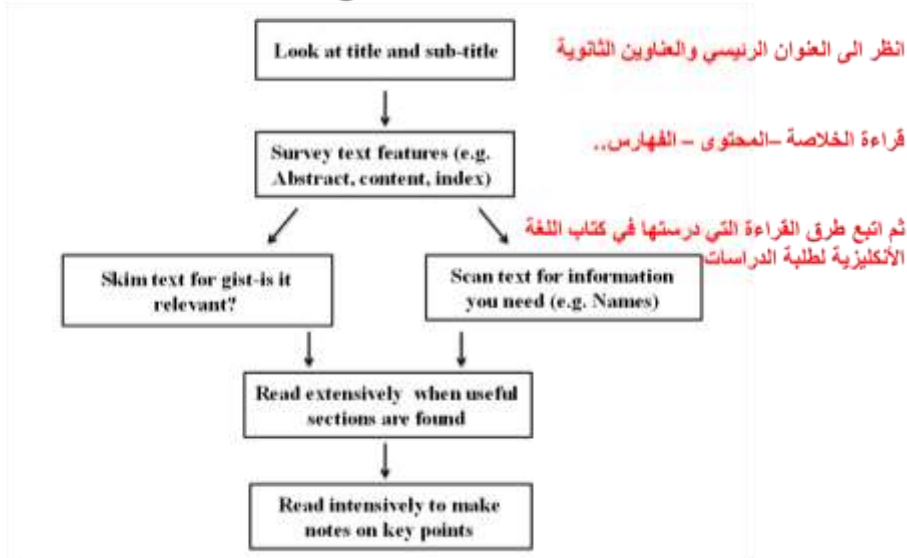
## Summary of Project Planning

<b>Journey</b>	<b>Points to ponder (think over)and discuss with your supervisor</b>
<b>Start</b>	Discuss a title, equipments, ethics approval Advice and guidance on ways of organising your time, on finding the right types of information and even reading and how to take notes. To plan the dissertation methodically " be kept on the right track". Agree supervision communication and recording methods. Supervisor should be aware of the student's initial perception of the enormity of the dissertation task and tailor their support accordingly.
<b>Middle</b>	" <b>Breakdown</b> the project into <b>achievable tasks</b> " and to <b>plan workload</b> . Set up <b>regular meetings</b> with your <b>supervisor</b> to help keep you on task
<b>End</b>	How to write the thesis and what type of feedback will be given.

## Lecture2: Finding Suitable Sources

### مخطط يوضح كيفية إيجاد المصدر المناسب..

#### Academic texts Reading method



## Academic Writing features

### 1- General to specific

### 2- Cautious

In academic writing, it is prudent to be cautious in one's statements so as to distinguish between facts.

Example: Drinking alcohol causes breast cancer in women.

Some studies suggest that drinking alcohol increases the risk of breast cancer

## Avoiding Plagiarism!!!!

### 1- Summarising:

### 2- Paraphrasing:

### 3- Citation:

There are two ways to do this:

Summary and Citation

Smith (2009) claims that the modern state wields power in new ways.

Quotation and Citation وكذلك استخدم الاقتباس

According to smith: ' The point is not that the state retreat but that is developing new forms of power...' (Smith, 2009).

## Planning your thesis writing

Start of project-Experimental planning	Put this part of thesis
Collate review and specific papers to see what other people have done	Introduction - Reference
Read other people' material and methods	Material and methods
Plan your own material and methods	Material and methods
Middle of project- Execute your experiment	
Note any change made to the existing methods	Material and methods
Creation of new method and protocols	Material and methods
Do your standards and controls work before continuing work	Results
Initial results are produced	Results
Mistakes or improvements to the experiment which could have been made if more time	Conclusion
End of project - Final results analysis	
Analysis results	Results
Compare thesis with other results	Discussion/Conclusion

## The thesis (report) sections in more detail

- 1- Title: should adequately describe you work.
- 2- Dedication: to thank friends or family or any one
- 3- Acknowledgment: the help of your supervisor or other staff in the department
- 4- Abstract: is the short description of your work
- 5- Content: will allow you and the reader to find the information quickly.
- 6- Introduction: to say what other people have do and why. Starts by discussing your problem or hypothesis
- 7- Aim: the overall purpose of the study
- 8- Material and method: how to repeat you work.
- 9- Results: Your finding-contains the results only,
- 10- Discussion: to compare and contrast with what you introduced at the start in the introduction.
- 11- Conclusion: summarize your main points of evidence for the reader.
- 12- References: All the statement of the facts and studies you cited should be listed in the references section



## **Useful academic language**

### **Aims of the study:**

The writer must have a clear idea of the purpose of the report.

They must also think about their audience (i.e. who will read the report).

### **Verb Tenses in the Methods Section**

Procedures in the method section are normally described in the past tense.

### **Avoid personalizing the information**

Active Voice– **We investigated** the properties of the material.

Passive Voice–The properties of the material **were investigated**.

## **The Results Section**

### **Aims of the Results Section**

To present the finding of your study in both figures and written text.

To comment briefly on the most important/ interesting findings.

To show your reader that you understand the significance of the results you obtained.

### **Moves of the Results Section**

The results section usually consists of three main moves:

Location of the finding (s),

Statement of the finding(s)

Comments

## Organising Comments and Results:

**1- Blocking-** all the results are presented first; the comments follow the results:  
Result 1 → Result 2 → Result 3 → Comment 1 → Comment 2 → Comment

**2-Chaining:** a short comment after each significant results:

Result 1 → Comment 1 → Result 2 → Comment 2 → Result 3 → Comment 3

## The Results Section-Types of comments

1. Explanation: Why did the study produce these particular results?

What factors influenced the data which was produced?

2. Comparison: How these results compare to other studies?

Do these results support or go against the original hypothesis?

3. Implication: What do these results mean?

4. Application: How can these results be used?

5. Limitation: What do these results not tell us?

What is missing from these results?

6.Cautious (hedging): .....may have caused.....

.....was probably the cause of.....

.....might have affected .....

..... was one of the factors which affected....

## Proofreading

Checking your work for small errors that may make it more difficult for the reader to understand exactly what you want to say.



## **Lecture 3: Formulating a Research Title**

**What is a research title?** It is the gateway to the contents of a scientific article.

- Title is an important part of the article.
- It condenses article content in a few words and captures readers' attention.
- A good title is able to introduce the research work to the fullest extent, but in a concise manner.
- Writing scientific titles that are informative and attractive is a challenging task.

### **Why research title is important?**

It is usually the first part of a manuscript that the editors and reviewers read.

After publication, it is the first (and many a times, also the only) part of an article that readers see.

Based on their understanding of the title, readers decide if the article is relevant to them or not.

### **The role that the titles are expected to play**

- Describe the paper's content, so readers can have an idea of what the paper is about and take the decision.
- Title should help differentiate that particular article from other papers on the topic.

### **Types of Titles**

#### **1-Descriptive titles:**

describe the article theme, but without divulging its findings or conclusions.

(For example, "Randomized controlled trial of a monoclonal antibody against the interleukin-2 receptor as compared with rabbit antithymocyte globulin for prophylaxis against rejection of renal allograft")

## 2- Declarative titles

state the main finding or conclusion stated in the paper.

“Administration of inhaled steroids to children with bronchial asthma for a two-year period leads to reduction in final height achieved”)

## 3-Inerrogative title

usually restate the research question (in part or in full; for example:

“Does occupational exposure to anesthetic gases lead to increase of pro-inflammatory cytokines?”).

## Compound titles

Compound titles العناوين المركبة (or hanging titles) have a subtitle.

The subtitles are primarily used to present additional relevant information.

They may provide additional context, inform about the study design: (for example, “Small to- moderate decreases in cold

hypersensitivity up to 3 years after severe hand injuries: A prospective cohort study”).

Or provide geographic

(for example, “Human leukocyte antigen diversity: a South African perspective”)

or temporal scope أو الإطار الزمني للدراسة

(for example, “Pelvic floor muscle training for female stress urinary incontinence: Five years outcomes”) of the research.

## **Full-sentence titles (not a phrase)عناوين الجمل الكاملة**

are uncommon and tend to be longer.

They indicate an added degree of certainty of the study results

(For example, “Serum Vitamin D Is Significantly Inversely Associated with Disease Severity in Caucasian Adults with Obstructive Sleep Apnea Syndrome”).

## **Attributes of a Good Titleسمات العنوان الجيد**

- Informs the reader accurately about the contents of the article:
- Is simple, direct, clear, brief and attractive:
- Does not contain abbreviations or jargon:
- Use of non-standard abbreviations in the title distracts and disturbs readers.
- Does not contain numerical value of the parameters
- It is line with the tenor of the paper: Medical research
- is a serious business. Hence, it is better to avoid amusing or hilarious titles for research articles.
- Includes keywords used for indexing:

## **Procedure of Writing a Title**

- Title is usually one of the last sections to be written. Even though this may be generally true.
- Building a working title while the manuscript is being written is helpful in preventing the author from going astray and if he does, to re-orient himself to the main purpose of the study.
- Those who wish to begin only after the entire manuscript text is ready can also write a one-paragraph summary of the manuscript as a starting point for selecting a title.
- They can then formulate a couple of sentences (working title) with key words and key terms that provide description of what the paper contains  
يمكن ان يصاغ العنوان المساعد من جملتين تحويان الكلمات المفتاحية والمصطلحات المهمة والتي توفر وصفا لمحتوى البحث

- The next step is to compress the title by getting rid of redundant words and refining it by making it easier to read, brief and catchy.
- There are several ways in which a title can be made attractive. These include using a famous quote in the title, twisting or playing with a quote, going for a clever play of words, making an exciting statement and creating a new acronym or anagram, among others.
- The title should not be finalized in a hurry.
- Also, it is worth asking for colleagues' and friends' opinion.
- Their suggestions can help improve the title.

تأكد من عنوان البحث يحتوي وصفا للموضوع- طريقة العمل نوع العينات المدروسة ونتائج دراستك

- **Make sure your research title describes**
- **(a) the topic**
- **(b) the method**
- **(c) the sample,**
- **and (d) the results of your study.**

- You can use the following formula:
- **[Result]: A [method] study of [topic] among [sample]**

- Example: Meditation makes nurses perform better: a qualitative study of mindfulness meditation among German nursing students

## Lecture4: Writing Introductions

In order to help you write the introduction to your own research, the model you build must answer the following three questions:

- How do writers normally start the introduction?
- What type of information should be in my introduction, and in what order?
- How do writers normally end the Introduction?

### مخطط البناء المتماثل لمقالة بحثية/رسالة/ اطروحة Symmetrical structure

Because many of the things you need to do in the Introduction are done — **in reverse order** — in the Discussion/Conclusion.

لأن العديد من الأشياء التي عليك القيام بها في المقدمة، تتم - بترتيب عكسي - في المناقشة / الخلاصة.

You need to write an **opening sentence** which enables you and your reader to **'get in'** or start your paper/thesis

ففي المقدمة، تحتاج التي كتابة جملة افتتاحية والتي تمكنك انت «أو القارئ» من الدخول الى / او بدأ بحثك/ رسالتك/ اطروحتك.

and you also need to **'get out'** at the end of the Discussion/Conclusion by finding an acceptable way to end the paper/thesis.

في حين تحتاج أيضا إلى كتابة عبارات أو جمل "الخروج" في نهاية المناقشة / الخلاصة من خلال إيجاد طريقة مقبولة لإنهاء الورقة البحثية / الأطروحة

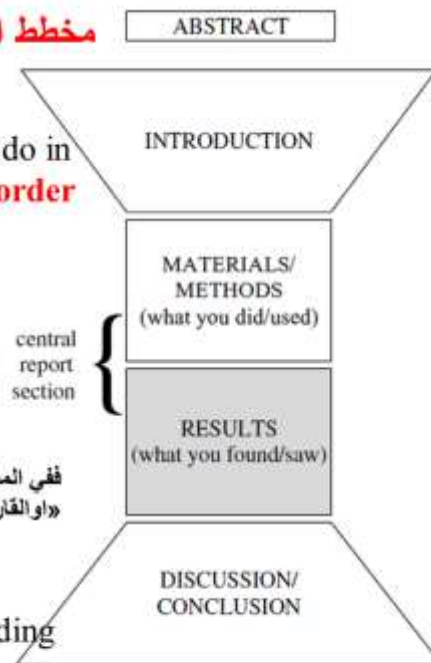


Fig. 1. The shape of a research article or thesis.

مخطط بناء مقالة بحثية/رسالة/ اطروحة

### وظائف المقدمة Writing introductions

- Establish the context, background and/or importance of the topic
- Indicate an issue, problem, or controversy in the field of study
- Define the topic or key terms
- State of the purpose of the essay/writing
- Provide an overview of the coverage and/or structure of the writing

Introductions to research articles/ dissertations tend to be relatively short but quite complex:

- ☐ giving a brief synopsis of the relevant literature
- ☐ highlighting the inadequacy of previous research
- ☐ indicating a problem, controversy or a knowledge gap in the field of study
- ☐ establishing the desirability of the research
- ☐ listing the research questions or hypotheses
- ☐ providing a synopsis of the research method(s)

<b>Establishing the importance of the topic for the world or society</b>
--

X is a fundamental property of ....

X is fast becoming a key instrument in ....

X is a common disorder characterised by ....

X plays an important role in the maintenance of ....

Xs are the most potent anti-inflammatory agents known.

X is a major public health problem, and the main cause of ....

Xs are one of the most rapidly declining groups of insects in ....

In the new global economy, X has become a central issue for ....

X is the leading cause of death in western-industrialised countries.

Xs are one of the most widely used groups of antibacterial agents and..

<b>Establishing the importance of the topic for the discipline</b>
--

A key aspect of X is ....

X is a classic problem in ....



A primary concern of X is ....

X is at the heart of our understanding of ...

Investigating X is a continuing concern within ....

Central to the entire discipline of X is the concept of ....

X and Y have been an object of research since the 1960s

X is a major area of interest within the field of ....

The issue of X has received considerable critical attention.

### **Establishing the importance of the topic (time frame given)**

One of the most important events of the 1970s was ....

**Traditionally**, Xs have subscribed to the belief that ....

**Recent** developments in X have heightened the need for ....

**In recent years**, there has been an increasing interest in ....

**Recent trends** in X have led to a proliferation of studies that ....

**Recent developments in the field** of X have led to a renewed interest in

**Recently, researchers** have shown an increased interest in ....

**The past decade** has seen the rapid development of X in many ....

The **past thirty years** have seen increasingly rapid advances in the field of

**Over the past century** there has been a dramatic increase in ....

### **Synopsis of literature (Outline)**

**Previous studies** have reported ....

**Recent evidence suggests** that ....

**Several attempts** have been made to ....

**Studies of X show** the importance of ....

**A number of researchers have** reported ....

**Recently investigators have examined** the effects of X on Y.

Factors found to be influencing **X have been explored in several studies.**

In the past two decades **a number of researchers** have sought to determine ....

**A considerable amount of literature** has been published on X. These studies ....

Surveys such as that conducted by Smith (1988) showed that ....

The first serious discussions and analyses of X emerged during the 1970s with ....

There have been a number of longitudinal studies involving X that have reported Xs were reported in the first models of Y (e.g., Smith, 1977; Smith and Patel, 1977).

What we know about X is largely based upon empirical studies that investigate how ....

Smith (1984: 217) shows how, in the past, research into X was mainly concerned with ....

### **Highlighting a problem**

However, **a major problem** with this kind of application is ....

Lack of X has existed as a **health problem** for many years.

However, these rapid changes **are having a serious effect** on ....

Despite its safety and efficacy, X **suffers from several major drawbacks**

However, research has consistently shown that these students lack ....

There is **increasing concern** that some Xs are being disadvantaged ....

Despite its long clinical success, X has **a number of problems in use.**

**Questions have been raised about** the safety of prolonged use of ....

Along with this growth in X, **however, there is increasing concern over** ....

### **Highlighting a controversy in the field of study**

To date there has been little agreement on what ....

One major issue in early X research concerned ....

The issue has grown in importance in light of recent ....

One observer has already drawn attention to the paradox in ....

Questions have been raised about the safety of prolonged use of ....

Debate continues about the best strategies for the management of ....

In many Xs, a debate is taking place between Ys and Zs concerning ....

This concept has recently been challenged by X studies demonstrating

The debate about X has gained fresh prominence with many arguing that

More recently, literature has emerged that offers contradictory findings about

One of the most significant current discussions in legal and moral philosophy is ....

### **Highlighting inadequacies of previous studies**

Researchers have not treated X in much detail.

Previous studies of X have not dealt with ....

Half of the studies evaluated failed to specify whether ....

Most studies in the field of X have only focused on ....

Most studies in X have only been carried out in a small number of areas.

The experimental data are rather controversial, and there is no general agreement about ....

Such expositions are unsatisfactory because they ....

The research to date has tended to focus on X rather than Y.

Research on the subject has been mostly restricted to limited comparisons of ....

## Highlighting a knowledge gap in the field

What is not yet clear is the impact of X on ....

**No previous study has investigated X .**

There has been little quantitative analysis of ....

**The neurobiological basis of this X is poorly understood.**

Until recently, there has been no reliable evidence that ....

**In addition, no research has been found that surveyed ....**

Little is known about X and it is not clear what factors ....

**This indicates a need to understand the various perceptions of X that exist among ....**

So far this method has only been applied to ....

**So far, however, there has been little discussion about ....**

However, far too little attention has been paid to ....

However, the evidence for this relationship is inconclusive ....

However, much uncertainty still exists about the relation between ....

However, there have been no controlled studies which compare differences in ....

In contrast, very little is known about X in non-mammalian vertebrates and in ....

Although While Whilst	some research has been carried out on X,	no single study exists which .... no studies have been found which .... no controlled studies have been reported. only two studies have attempted to investigate .... the mechanism by which .... has not been established. there have been few empirical investigations into .... there is very little scientific understanding of ....
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**Apart from Smith (2014), there is a general lack of research in ....**

Despite this, very few studies have investigated the impact of X on ....

Several studies have produced estimates of X (Smith, 2002; Jones, 2003),  
but there is still insufficient data for ....

## Indicating the focus, aim, argument of a paper

This paper **challenges the claim that** ....

This paper will **review the research conducted on** ....

This paper will **focus on/examine/give an account of** ....

This paper seeks to **remedy these problems by analysing the literature of**

This paper **examines the significance of X in the rise of** ....

This **essay critically examines/discusses/traces** ....

This **account seeks to** ....

In this **paper I argue that** ....

In the pages that follow, **it will be argued that** ....

This paper **attempts to show that** ....

In this essay, I attempt to defend the view that ....

The central thesis of this paper is that ....

The aim of the paper is to provide a conceptual theoretical framework based on....

The purpose of this paper is to review recent research into the ....

## Stating the purpose of research

The **major objective of this study was to investigate** .....

The **aim of this study was to clarify several aspects of** ....

The aim of this study is **to investigate the differences** between X and Y.

The aim of this research project has therefore **been to try and establish what** ....

The main aim of this investigation **is to assess** the doses and risks associated with  
....

The aim of this study **is to shine new light on these debates through an  
examination of** ....

The objectives **of this research are to determine whether** ....

**The main purpose of this study is to develop an understanding of ....**

This paper investigates the usefulness of ....

This thesis intends to determine the extent to which .... and whether ....

This thesis will examine the way in which the ....

This research examines the emerging role of X in the context of ....

This case study seeks to examine the changing nature of ....

This dissertation seeks to explain the development of ....

This dissertation aims to unravel some of the mysteries surrounding ....

This study systematically reviews the data for...., aiming to provide ....

### **Research questions or hypotheses**

The central question in this dissertation asks how ....

**This research seeks to address the following questions:**

In particular, this dissertation will examine six main research questions:

**The hypothesis that will be tested is that ....**

**The key research question of this study was whether or not**

This study aimed to address the following research questions:

**Another question is whether ...**

### **Synopsis (outline) of the research design, method, source(s) of data**

**Five works will be examined, all of which ....**

**Data for this study were collected using ....**

**This dissertation follows a case-study design, with in-depth analysis of**

This study **was exploratory and interpretative in nature.**

**The approach to empirical research adopted for this study was one of**

**The methodological approach taken in this study is a mixed methodology based on ....**

**By employing qualitative modes of enquiry, I attempt to illuminate the**

**This work takes the form of a case-study of the ....**

**Both qualitative and quantitative methods were used in this investigation.**

### **Indicating significance**

**This project provided an important opportunity to advance the understanding of .....**

**This study provides an exciting opportunity to advance our knowledge of**

**This is the first study to undertake a longitudinal analysis of ....**

**The findings should make an important contribution to the field of**

**Therefore, this study makes a major contribution to research on X by demonstrating ....**

**The study offers some important insights into ....**

**This study aims to contribute to this growing area of research by exploring ....**

### **Indicating limitations**

**The thesis does not engage with ....**

**Due to practical constraints, this paper cannot provide a comprehensive review of ....**

**It is beyond the scope of this study to examine the ....**

**The reader should bear in mind that the study is based on**

**Another potential problem is that the scope of my thesis may be too broad.**

**A full discussion of X lies beyond the scope of this study.**

## **Outlining the structure**

The **main questions/issues addressed in this paper are:** a), b and c).

**This paper has been divided into four parts.** The first part deals with

The **essay has been organised in the following way.**

**This paper reviews the evidence for ....**

**This paper begins by .... It will then go on to ....**

**The first section of this paper will examine ....**

**This paper first gives a brief overview of the recent history of X.**

**My thesis is composed of four themed chapters.**

**The overall structure of the study takes the form of six chapters, including this introductory chapter.** Chapter Two begins by laying out the theoretical dimensions of the research, and looks at how ....

The third chapter is concerned with the methodology used for this study.

The fourth section presents the findings of the research, focusing on the three key themes that ....

Chapter 6 analyses the results of interviews and focus group discussions undertaken during ....

The remaining part of the paper proceeds as follows: ....

The final chapter draws upon the entire thesis, tying up the various theoretical and empirical strands in order to ....

.... and includes a discussion of the implication of the findings to future research into this area.

Finally, the conclusion gives a brief summary and critique of the findings

Finally, areas for further research are identified.



## **Explaining Keywords (refer to Defining Terms)**

**Throughout this paper, the term X will refer to ....**

**Throughout this dissertation, the term X will be used to refer to ...**

**In this article, the acronym/abbreviation XYZ will be used.**

**According to Smith (2002), X can be defined as follows: “....”**

**The term X is a relatively new name for ., commonly referred to as**

**While a variety of definitions of the term X have been suggested, this paper will use the definition first suggested by Smith (1968) who saw it as ....**

## Lecture5: Referring to the Literature

One of the **distinguishing features** of academic writing is informed by:

- what is already known,
- what work has been done before,
- what ideas and models have already been developed.



Thus, academic writers frequently make **reference to external sources**

إحدى السمات المميزة للكتابة الأكاديمية هي أنها تخبرك:  
بما هو معروف بالفعل عن الموضوع ،  
ما العمل الذي تم القيام به من قبل ،  
ما الأفكار والنماذج التي تم تطويرها بالفعل  
لذا فإن الكتاب الأكاديميون في كثير من الأحيان يشيرون إلى مصادر خارجية لتوضيح السمات اعلاه

## Purpose of the literature review section

- ❑ To show the reader, in a systematic way, what is already known about the research topic as a whole,
- ❑ to outline the key ideas and theories that help us to understand this.
- ❑ evaluative and critical of the studies or ideas which are relevant to the current work (refer to Being Critical).

For example, you may think a particular study did not investigate some important aspect of the area you are researching, that the authors failed to notice a weakness in their methods, or that their conclusion is not well-supported.

### **ملاحظة حول أزمنة الفعل: A note on verb tenses:**

For general reference to the literature, the **present perfect tense** (have/has + verb + ed) tends to be used.

e.g. Studies have showed

For reference to specific studies carried out in the past, the **simple past tense** is most commonly used.

e.g. James identified/ reported

### **When referring to the words or ideas of writers,**

the **present tense** is often used if the ideas are still relevant, even if the author is no longer alive.

### **General descriptions of the relevant literature**

A large and growing body of literature has investigated

More recent attention has focused on the provision of

Much of the current literature on X pays particular attention to ....

There is a large volume of published studies describing the role of ....

**In recent years**, there has been an increasing amount of literature on ....

### **General reference to previous research or scholarship: normally more than one author**

Several studies investigating X have been carried out on

Previous studies have reported .... (Smith, 1985; Jones, 1987; Johnson, 1992)

A number of studies have found that .... (Smith , 2003; Jones, 2004).

It has been suggested that levels of X are independent of the size of the Y (Smith *et al.*, 1995).

ملاحظة : تتم الإشارة حسب التسلسل الزمني لسنوات النشر

### Reference to current state of knowledge

There is an unambiguous relationship between X and Y (Rao, 1998).

X has been found to oppose the anti-inflammatory actions of Y on Z (Alourfi, 2004).

A relationship exists between an individual's working memory and their ability to .... (Jones, 2002).

GM varieties of maize are able to cross-pollinate with non-GM varieties (Smith, 1998; Jones, 1999).

### Reference to single investigations in the past: researcher(s) as sentence subject

Smith (1999)

found that as levels of literacy and education of the population rise ....  
showed that reducing X to 190oC decreased .... (see Figure 2) .  
demonstrated that when the maximum temperature is exceeded ....

Jones *et al.* (2001)

investigated the differential impact of formal and non-formal education on  
analysed the data from 72 countries and concluded that ....  
reviewed the literature from the period and found little evidence for this .....

### Reference to single investigations or publications in the past: time frame prominent

In 1975, Smith et al. published a paper in which they described ....

In 1990, Patel et al. demonstrated that replacement of H<sub>2</sub>O with heavy water led to ....

Thirty years later, Smith (1974) reported three cases of X which ....

### Reference to single investigations in the past: investigation prominent

Preliminary work on X was undertaken by Abdul Karim (1992).

The first systematic study of X was reported by Patel *et al.* in 1986.

Analysis of the genes involved in X was first carried out by Smith et al (1983).

One study by Smith (2014) examined the trend in ....

### Reference to single investigations in the past: research topic as main focus

To determine the effects of X, Zhao (2005) compared

X was originally isolated from Y in a soil sample from .... (Wang *et al.*, 1952).

The electronic spectroscopy of X was first studied by Smith and Jones<sup>1</sup> in 1970

X was first demonstrated experimentally by Pavlov (Smith, 2002). In his seminal study ....

### Reference to another writer's ideas or position (author as subject)

اسلوب الإشارة إلى أفكار أو موقف (رأي) باحث آخر (المؤلف كفاعل للجملة)

According to Smith (2003), preventative medicine is far more cost effective, and therefore ....

As noted by Smith (2003) X is far more cost effective,



## **Synthesising sources – بناء-جمع-المصادر**

Similarly, Nicoladis (2006) found that X ....

In the same vein, Smith (1994) in his book XYZ notes ....

This view is supported by Jones (2000) who writes that ....

Smith argues that her data support O'Brien's (1988) view that ....

Al-Masry's (1986) work on X is complemented by Smith's (2009) study of ....

Almost every paper that has been written on X includes a section relating to ....

Unlike Smith, Jones (2013) argues that ....

## **Some ways of introducing quotations**

Commenting on X, Smith (2003) argues: '.... ....'

As Smith argues: 'In the past, the purpose of education was to ....' (Smith , 2000:150).

As Carnoy (2004: 215) states: 'there are many good reasons to be sceptical'.

Sachs concludes: 'The idea of development stands today like a ruin in the intellectual landscape...'(Sachs, 1992a: 156).

## **Summarising the review or parts of the review**

Together, these studies outline that ....

Overall, these studies highlight the need for ....

Collectively, these studies outline a critical role for...

The evidence presented in this section suggests that ....

The studies presented thus far provide evidence that ....

Overall, there seems to be some evidence to indicate that ....

Together these studies provide important insights into the ....

In view of all that has been mentioned so far, one may suppose that ....

## Lecture6: Describing Methods

- ❑ Writers give an account of **how they carried out their research.**
- ❑ The Methods section **should be clear and detailed enough** for another experienced person **to repeat the research and reproduce the results.**
- ❑ Where the methods chosen **are new, unfamiliar or perhaps even controversial,** the Methods section will **tend to be much more extensive.**
- ❑ Note that for most of the functional categories in this section, the verbs are written in the **simple past tense.**

### Describing previously used methods

To date various methods have been developed and introduced **to measure X:**

In most recent studies, X has been measured in four different ways.

Traditionally, X has been **assessed by** measuring....

Different authors have measured X in a variety of ways.

Previous studies have based their criteria for selection on ....

### Giving reasons why a particular method was adopted or rejected

**A case study approach** was used to allow a ....

**Qualitative methods offer** an effective way of ....

**A quantitative approach was employed** since ....

The X method is one of the more practical ways of ....

The semi-structured approach was chosen because ....

A major problem with the experimental method is that ....

### Indicating a specific method

X was **prepared according** to the procedure used by Patel *et al.* (1957).

The synthesis of X was done according to the procedure of Smith (1973).

X was **synthesised using** the same method that was detailed for Y, using ....

**An alternative method** for making scales homogenous is by using ....

Samples were analysed for X as previously reported by Smith *et al.* (2012)

### Describing the characteristics of the sample

Eligibility criteria required individuals to have received

A random sample of patients with .... was recruited from ....

Forty-seven students studying X **were recruited** for this study.

**Just over half** the sample (53%) was female,

**Of the initial cohort of 123 students**, 66 were female and 57 male.

Only children aged between 10 and 15 years were included in the study.

### Indicating reasons for sample characteristics

Criteria for selecting the subjects were as follows:

The area of study was chosen for its relatively small ....

Five individuals were excluded from the study on the basis of ....

A small sample was chosen because of the expected difficulty of obtaining ....

The subjects were selected on the basis of a degree of homogeneity of their ....



### **Describing the process: infinitive of purpose**

**In order to understand** how X regulates Y, a series of transfections was performed.

**To establish** whether ....,

**To measure** X, a question asking .... was used.

**To see** if the two methods gave the same measurement, the data was plotted and ...

**To control** for bias, measurements were carried out by another person.

### **Describing the process: other phrases expressing purpose**

**For the purpose** of height measurement, subjects were asked to stand ...

For the purpose of analysis, 2 segments were extracted from each ....

**For the estimation of protein concentration**, 100  $\mu\text{L}$  of protein sample was mixed with ....

### **Describing the process: typical verbs in the passive form**

The **data were normalised** using ....

Descriptive data **were generated** for all variables.

The procedures of this study **were approved** by ....

Data for this study **were retrospectively collected** from

Prompts **were used** as an aid to question two so that

The experiments **were** run using custom software **written** in....

### **Describing the process: sequence words and phrases**

**Prior to undertaking** the investigation, ethical clearance was obtained from ....

**After collection**, the samples were shipped back to X in

**Once the** Xs were located and marked, a thin clear plastic ruler ....

**On arrival** at the clinic, patients were asked to ....

Following correction for ....., X was reduced to ....

The soil **was then** weighed again, and this weight was recorded as ....

The results were corrected for the background readings and then averaged before

**Finally**, questions **were asked** as to the role of ....

**In the follow-up phase** of the study, participants were asked ....

### **Describing the process: adverbs of manner**

The soil was then placed in a furnace and **gradually heated up to ....**

The vials were shaken **manually** to allow the soil to mix well with the water.

The medium was then **aseptically** transferred to a conical flask.

The resulting solution was **gently** mixed at room temperature for ten minutes and ....

A sample of the concentrate was then **carefully** injected into ....

The tubes were **accurately** reweighed to six decimal places using ....

soil was then placed in a furnace and **gradually heated up to ....**

### **Describing the process: using + instrument**

15 subjects were recruited **using email** advertisements requesting healthy students from ....

Data were collected **using two** high spectral resolution Xs.

The data was recorded on a digital audio recorder and transcribed **using** a ....

Semi-automated genotyping was **carried out using X** software and ....

### **Describing the process: giving detailed information**

Compounds 3 and 5 **were dissolved** in X at apparent pH 2.5 to give concentrations of 4mM ....

.... and the solutions **were degraded** at 55°C or 37°C for a total time of 42 hours.

At intervals of 0.5 min, 50 µL of the X **was aliquoted** into 0.5mL of Y (pH 7.5) to ....

### **Indicating problems or limitations**

In this investigation there are several sources for error. The main error is ....

Another major source **of uncertainty** is in the method used to calculate X.

In particular, the analysis of X **was problematic**.

Further data collection is **required to determine** exactly how X affects Y.

It was not possible to investigate the significant relationships of X and Y further **because the sample size was too small**.

## Lecture7: Reporting Results

- **النهج القياسي لكتابة النتائج-** في المقالة البحثية أو الرسالة /الاطروحة هو عرض ووصف النتائج بطريقة منهجية ومفصلة.
- عند — بيان النتائج النوعية ، يقوم الباحث ب**تسليط الضوء والتعليق** على الموضوعات- او الأنماط الرئيسية **themes** التي تظهر من تحليل النتائج. غالبًا ما يتم توضيح هذه التعليقات بمقتطفات من البيانات الأولية raw data .
- في الدراسات الكمية ، يتكون قسم النتائج **من جداول وأشكال** ، ويعلق الكاتب على البيانات المهمة الموضحة في هذه الجداول والأشكال.
- وهذا غالبًا ما يأخذ شكل **تحديد الموقع للأشكال والجداول** ( in Figure3-3 or table 3-5 ) والبيان الموجز لمحتواها، باستخدام عبارات تسليط الضوء والتي تشير إلى البيانات ذات الصلة أو المهمة وتصفها.
- يجب ترقيم جميع الأشكال والجداول وإعطائها عنوانًا.
- عادةً ما يقتصر التعليق **الأكثر تفصيلاً** على النتائج على **قسم المناقشة Discussion**.
- في المقالات البحثية ، قد يعلق المؤلفون بشكل مكثف على نتائجهم عند تقديمها ، وليس من غير المألوف أن يتم دمج قسم النتائج مع قسم المناقشة تحت عنوان: النتائج والمناقشة **.Results and Discussion**

## Reference to aim or method

Changes in X and Y were compared using ....

**Simple statistical analysis** was used to ....

To assess X, the **Y questionnaire was used.**

To **distinguish between these two possibilities**, ....

T-tests were used to analyse the relationship between ....

In order to assess Z, **repeated-measures ANOVAs were used.**

Regression analysis was used to predict the ....


## Referring to data in a table or chart

اسلوب الإشارة الى البيانات في الجداول والأشكال

Table 1  
Figure 1

shows  
compares  
presents  
provides

an overview of ....  
the experimental data on X.  
the summary statistics for ....  
the breakdown of X according to ....  
the results obtained from the preliminary analysis of X.  
the intercorrelations among the nine measures of X.



The table below illustrates

The pie chart above shows

some of the main characteristics of the ....

the breakdown of ....

## Highlighting significant data in a table / chart

It is apparent from **this** table that very few ....

**What is interesting** in this data is that ....

In Fig.10 there is a **clear trend of decreasing** ....

**As Table III shows, there** is a significant difference ( $t = -2.15$ ,  $p = 0.03$ ) between the two groups.

The differences between X and Y **are highlighted in Table 4**

### Statements of positive result

Strong evidence of X was found when ....

This result **is significant at the  $p = 0.05$**  level.

There was **a significant positive correlation between**

There was a **significant difference between the two conditions ....**

On average, **Xs were shown to have ....**

The mean score for X was ....

### Statements of negative result

There was **no increase** of X associated with .....

There were **no significant differences** between ....

**No significant differences** were found between ....

**No increase in X** was detected.

**No difference greater** than X was observed.

**No significant reduction** in X was found compared with placebo.

### Highlighting significant, interesting or surprising results

Interestingly, the X was observed to ....

The more surprising correlation is with the ....

The most striking result to emerge from the data is that

The correlation between X and Y is interesting because

**Interestingly,** there were also differences in the ratios of

### Reporting a reaction

When X cells were stimulated with Y, no significant difference in the number of Z was detected.

However, stimulation of X cells with Y did not increase the ....

Following the addition of X, a **significant increase ( $P<0.05$ )** in the Y was recorded.

With successive increases in intensity of the X, the Y moved further to ....

### Observations about qualitative data

The themes of X and Y recurred throughout the dataset.

Five broad themes emerged from the analysis.

Two discrete reasons emerged from this. First .... Second ....

A number of issues were identified ....

This theme came up for example in discussions of .

A recurrent theme in the interviews was a sense amongst interviewees that ...

### Transition statements

If we now turn to ....

A comparison of the two results reveals ....

**Turning now to** the experimental evidence on ....

**Comparing the two results**, it can be seen that ....

The **next section of** the survey was concerned with ....

In the **final part of the survey**, respondents were asked

## Summary and transition

These results suggest that ....**Overall, these results indicate that ....**

Together these results **provide important insights into**

**Taken together, these results suggest** that there is an association between ....

**In summary, these results show that ....**

The results in this Chapter indicate that .... The next Chapter, therefore, moves on to discuss the ....



## **Lecture8: Discussing Findings**

- a) considering **both sides of an issue**, or question before reaching a conclusion;
- b) considering the **results of research** and the **implications of these**.

**'statement of result' or an important 'finding'.**

**As there is usually more than one result, discussion sections are often structured into a series of discussion cycles.**

### **Background information: reference to literature or to research aim/question**

As mentioned in the literature review, ....

The third question in this research was ....

Prior studies that have noted the importance of ....

An initial objective of the project was to identify ....

Very little was found in the literature on the question of ....

This study set out with the aim of assessing the importance of X in ....

The first question in this study sought to determine ....

It was hypothesized that participants with a history of ....

The present study was designed to determine the effect of ....

A strong relationship between X and Y has been reported in the literature.

In reviewing the literature, no data was found on the association between X and Y.

### **Statements of result: usually with reference to results section**

The current study found that ....

The most interesting finding was that ....

In this study, Xs were found to cause ....

The results of this study show/indicate that ....

This experiment did not detect any evidence for ....

On the question of X, this study found that ....

The most important clinically relevant finding was ....

Another important finding was that ....

In the current study, comparing X with Y showed that the mean degree of ....

X provided the largest set of significant clusters of ....

It is interesting to note that in all seven cases of this study ....

The results of this study did not show that .../did not show any significant increase in ....

### **Unexpected outcome**

Surprisingly, X was found to ....

What is surprising is that ....

One unanticipated finding was that ....

Surprisingly, no differences were found in ....

This finding was unexpected and suggests that ....

It is somewhat surprising that no X was noted in this condition ....

Contrary to expectations, this study did not find a significant difference between ....

However, the observed difference between X and Y in this study was not significant.

However, the ANOVA (one way) showed that these results were not statistically significant

<b>Reference to previous research: <u>support</u></b>
---

These findings further support the idea of ....

This finding confirms the association between ....

This study confirms that X is associated with ....

These results match those observed in earlier studies.

The results of this study will now be compared to the findings of previous work.

The findings of the current study are consistent with those of Smith and Jones (2001) who ....

These results are **consistent with those** of other studies and suggest that ....

This finding **supports previous** research into this brain area which links X and Y.

This finding **corroborates the ideas** of Smith and Jones (2008), who suggested that ....

This finding **is in agreement** with Smith's (1999) findings which showed ....

### **Reference to previous research: contradict**

However, the findings of the current study do not support the previous research.

This study has been unable to demonstrate that ....

However, this result has not previously been described.

In contrast to earlier findings, however, no evidence of X was detected.

These **results differ** from X's 2003 estimate of Y, but they are broadly consistent with earlier ....

Although, these results differ from some published studies (Smith, 1992; Jones, 1996), they are consistent with those of ....

### **Explanations for results**

Some authors have speculated that ....

A possible explanation for this might be that ....

Another possible explanation for this is that ....

This result may be explained by the fact that ....

It seems possible that these results are due to ....

This inconsistency may be due to ....

This discrepancy could be attributed to ....

This rather contradictory result may be due to ....

### **Advising cautious interpretation**

These findings cannot be extrapolated to all patients.

These data must be interpreted with caution because ....

These results therefore need to be interpreted with caution.

It is important to bear in mind the possible bias in these responses.

However, with a small sample size, caution must be applied, as the findings might not be transferable to ....

Although exclusion of X did not reduce the effect on X, these results should be interpreted with caution.

### **Suggesting general hypotheses**

The value of X suggests that a weak link may exist between ....

It is therefore likely that such connections exist between ....

It can thus be suggested that ....

It is possible to hypothesise that these conditions are less likely to occur in ....

It is possible/likely/probable therefore that ....

Hence, it could conceivably be hypothesised that ....

These findings suggest that ....

It may be the case therefore that these variations ....

In general, therefore, it seems that ....

It is possible, therefore, that ....

Therefore, X could be a major factor, if not the only one, causing ....

It can therefore be assumed that the ....

This finding, while preliminary, suggests that ....

### **Noting implications**

This finding has important implications for developing ....

An implication of this is the possibility that ....

One of the issues that emerges from these findings is ....

Some of the issues emerging from this finding relate specifically to ....

This combination of findings provides some support for the conceptual premise that ....

These findings may help us to understand ....

These results provide further support for the hypothesis that ....

### **Commenting on findings**

However, these results were not very encouraging.

These findings are rather disappointing.

The test was successful as it was able to identify students who

The present results are significant in at least major two respects.

These findings will doubtless be much scrutinized, but there are some immediately dependable conclusions for ....

The results of this study do not explain the occurrence of these adverse events.

## **Suggestions for future work**

Further work is required to establish this.

This is an important issue for future research.

Several questions remain unanswered at present.

There is abundant room for further progress in determining ...

Further research should be done to investigate the ....

Research questions that could be asked include ....

Future studies on the current topic are therefore recommended.

A further study with more focus on X is therefore suggested.

Further studies, which take these variables into account, will need to be undertaken.

In future investigations, it might be possible to use a different X in which ....

In further research, the use of this data as X could be a means of ....

However, more research on this topic needs to be undertaken before the association between X and Y is more clearly understood.

## **Lecture9: Writing Conclusions**

Shorter sections of academic texts which serve two functions:

- 1- Summaries & bring together the main areas covered in the writing.
- 2- Give a final comment or judgment on this.

The final comment may also include: Making suggestions for improvement and Speculating on future directions.

In dissertations and research papers,

conclusions tend to be more complex and will also include sections on:

- ☐ Significance of the findings and
- ☐ Recommendations for future work.

Conclusions may be optional in research articles where consolidation of the study and general implications are covered in the Discussion section.

### **Restatement of aims**

- This paper has argued that ....
- This study set out to determine ....
- This essay has discussed the reasons for ....
- The present study was designed to determine the effect of
- The main goal of the current study was to determine ....
- In this investigation, the aim was to assess ....
- The purpose of the current study was to determine ....
- This project was undertaken to design .... and evaluate ....
- Returning to the hypothesis/question posed at the beginning of this study, it is now possible to state that ....



## Summarising research findings

- This study has shown that ....
- The investigation of X **has shown** that ....
- These **findings suggest** that in general ....
- It was also shown that ....
- This study **has found** that generally ....
- The relevance of X is clearly supported by the current findings.
- This study/research has shown that ....
- The **second major finding** was that ....
- The results of this investigation show that ....
- **The most obvious finding to emerge** from this study is that ....
- X, Y and Z emerged as reliable predictors of ....
- **Multiple regression analysis** revealed that the ....

## Suggesting implications

- The evidence from this study suggests that ....
- **The following conclusions** can be drawn from the present study ....
- The results of this **study indicate** that ....
- The results of this research **support the idea** that ....
- In general, therefore, it seems that ....
- **Taken together**, these results suggest that ....
- **An implication** of this is the possibility that ....

## Significance of the findings or research contribution

- This research **extends our knowledge** of ....
- The present study makes **several noteworthy contributions** to
- This work **contributes to existing knowledge** X by providing ...
- The present study **provides additional evidence** with respect to
- The current **findings add to a growing body of literature** on ....
- The study has **confirmed the findings of Smith *et al.* (2001) which found that**
- The findings from this study make several contributions to the **current literature**. First,...
- These findings **enhance our understanding** of ....
- This study **has demonstrated**, for the first time, that ....
- The analysis of X undertaken here, has **extended our knowledge of ....**
- This research will **serve as a base for future studies** and ...
- The methods used for this X **may be applied to other** Xs elsewhere in the world.
- Taken together, these findings suggest a role for X in promoting Y.
- The present study **confirms previous findings** and **contributes additional evidence** that suggests ....
- This research has **several practical applications**. Firstly, it points to ....

## Limitations of the current study

- Finally, **a number of important limitations need to be considered**. First, ....
- The findings in this report **are subject to at least three limitations**. First, ....
- Thirdly, the **study did not evaluate** the use of ....
- The generalisability of these results is **subject to certain limitations**. For **instance**, ....
- The most important **limitation lies in the fact** that ....
- The major limitation of this study is the **low response rate**.

## Lecture10: General functions of academic writing

### Being Critical

As an academic writer:

- ❑ You are expected to be critical of the sources that you use.
- ✓ **questioning** what you read and
- ✓ not necessarily **agreeing with it** just because the **information has been published**.
- ✓ **looking for reasons** why we should not just accept something as being correct or true.
- ✓ **identify problems** with a writer's arguments or methods,
- ✓ or perhaps to refer to other people's criticisms of these.
- ✓ **suggesting** ways a research or writing could be improved.

### Introducing questions, problems and limitations: method/practice

One major **drawback** of this **approach** is that ....

The **main limitation** of biosynthetic incorporation, however, is

However, this method of analysis **has a number of limitations**.

Another problem with this **approach** is that it fails to take X **into account**.

However, all the previously mentioned methods suffer  
from some serious

**limitations**  
**weaknesses**  
**disadvantages**  
**drawbacks.**

### Identifying a study's weakness

the main weakness of the study **is the failure to address** how ....

the study **fails to consider** the differing categories of damage that

the research **does not take into account pre-existing** .... such as

the author **offers no explanation** for the distinction between X and Y.

Smith makes **no attempt to differentiate** between different types of X.

**Jones fails to fully** acknowledge the significance of ....

## Offering constructive suggestions

Smith's paper Her conclusions The study The findings	would have been might have been	more much more far more
	useful convincing interesting persuasive original	if he/she had if the author had
		included considered adopted used ...

## Using evaluative adjectives to comment on research

In his In their In this	excellent comprehensive detailed useful thorough ground breaking timely important impressive ----- limited small-scale	analysis (of X), examination (of X), study (of X), survey (of X), investigation (into Y),	Smith (2012) Jones <i>et al.</i>	found .... were able to show .... concluded that ....
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## Highlighting inadequacies of previous studies

Researchers have not treated X in much detail.

Previous studies of X have not dealt with ....

Such expositions are unsatisfactory because they ....

Most studies in the field of X have only focussed on ....

Half of the studies evaluated failed to specify whether ....

The research to date has tended to focus on X rather than Y.

### Introducing general criticism

Non-government agencies are also very critical of the new policies.

The X theory has been **vigorously challenged** in recent years by a number of writers.

These **claims** have been **strongly contested** in recent years by a number of writers.

Smith's meta-analysis has been **subjected to considerable criticism**.

The most important of these criticisms is that Smith failed to note that ....

### Being Cautious

**most noticeable stylistic** aspects of academic communication

tendency for writers to **avoid expressing absolute certainty**,

where there may be a small degree of uncertainty,

and to **avoid making over-generalisations**,

where a small number **of exceptions** might exist.

In the field of linguistics, devices for lessening the strength of a statement or claim are known as **hedging devices**.

## Devices that distance the author from a proposition

It is believed that ....

It is thought that ....

It has commonly been assumed that ....

It has been reported that ....

Smith (2001) holds the view that ....

If Smith's (2001) findings are accurate, ....

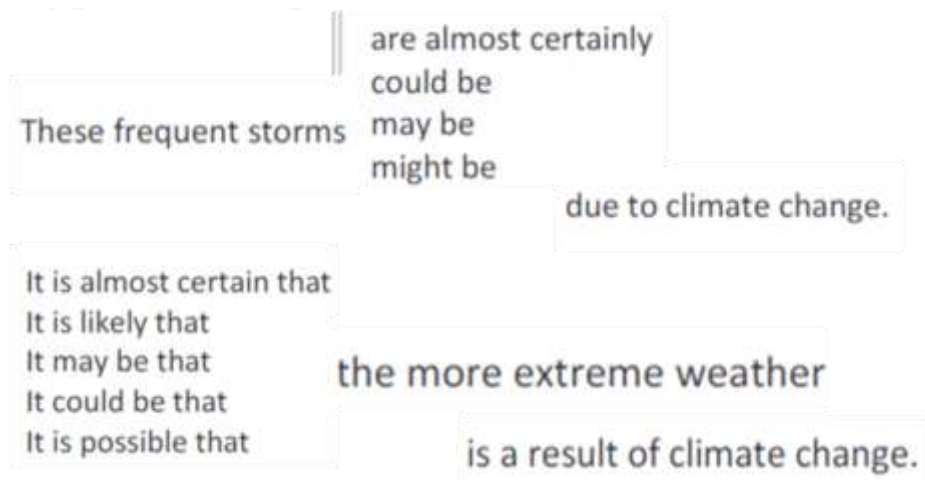
According to recent reports, ....

According to Smith (2002), ....

Recent research has suggested that ....

There is some evidence to suggest that

## Being cautious when giving explanations/ hypothesising



## Being cautious when explaining results

This inconsistency **may be due** to ....

This discrepancy **could be attributed** to ....

A **possible explanation** for this might be that ....

**It seems possible that** these results are due to ....

This **rather contradictory result may be due to** ....

The observed increase in X **could be attributed to** ....

## Being cautious when discussing implications or recommendations

One possible implication of this is that ....

The findings of this study **suggest that** ....

**The evidence** from this study **suggests** that ....

Taken together, these results suggest that ....

The data reported here appear to support the assumption that ....

Initial observations suggest that there may be a link between ....

### Devices for avoiding over-generalisation

Ozone is toxic to

almost all  
most  
many types of  
the majority of  
certain types of  
some types of

living organisms.

Ozone levels

nearly always  
frequently  
often  
occasionally

exceed WHO levels in many cities.

## Being cautious when writing about the future

Severe weather

will almost  
certainly  
will probably  
is likely to  
could  
may  
might

become more common in the future.

## Being cautious when writing about the future

Severe weather

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## **Advising cautious interpretation of findings (Refer to Discussing Findings)**

These data must be interpreted with caution because ....

These results therefore need to be interpreted with caution.

However, with a small sample size, caution must be applied, as the findings might not be ....

These findings **cannot be extrapolated** to all patients.

Although exclusion of X did not ....., these results should be interpreted with caution.

It is important to **bear in mind the possible bias** in these responses.

## **Classifying and Listing**

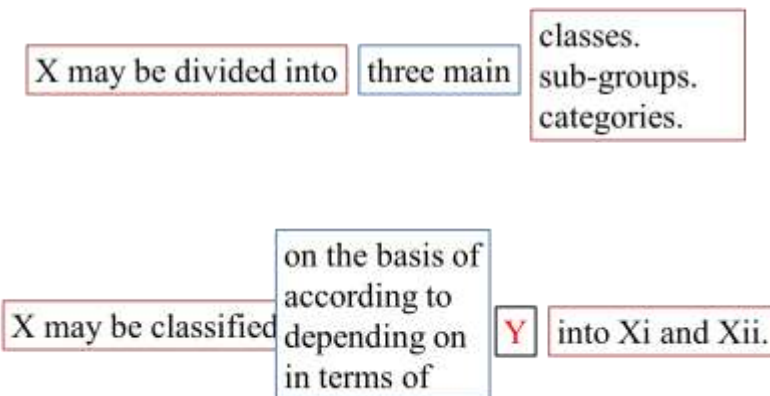
In writing, classifying is often used as a way of introducing a reader to a new topic.

Classification may be used in the **early part of an essay**, or longer piece of writing.

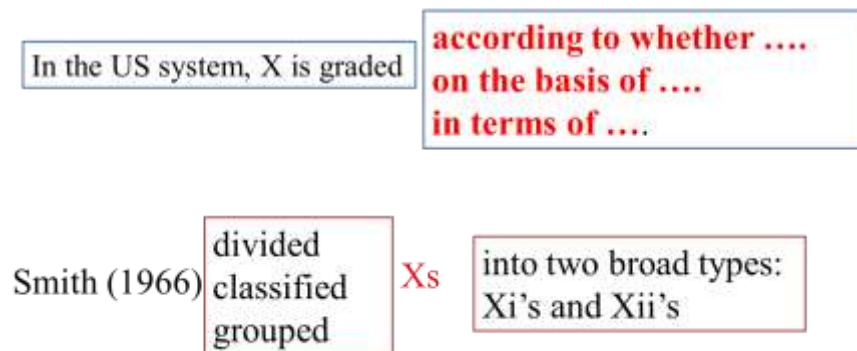
treat and present a series of items or different pieces of information systematically by **listing**.

The **order** of a list may indicate **rank importance**.

## General classifications



## Specific classifications



## Introducing lists

This topic can best be **treated under three headings**: X, Y and Z.

The key aspects of management can **be listed as follows**: X, Y and Z.

There are three reasons why the English language has become so dominant. These are:

There **are two types of effect** which result when a patient undergoes X. **These are ....**

The disadvantages of the new approach **can be discussed under three headings, which are: ....**

## Referring to other people's lists

Smith and Jones (1991) **list** X, Y and Z as the major causes of infant mortality.

Smith (2003) argues that there are two broad categories of Y, **which are:** a) .... and b) ....

Smith (2003) suggests three conditions for its acceptance. **Firstly**, X should be ....

**Secondly**, it needs to be.... **Thirdly**, ..

For Aristotle, motion is of four kinds: (1) motion which ....; (2) motion which ....; (3) motion which ....; and (4) motion which....

## Comparing and Contrasting

By understanding **similarities and differences** between two things,  
we can increase our **understanding and learn more about both.**

This usually involves a **process of analysis**, in which we compare **the specific parts** as well as **the whole**.

Comparison may also a preliminary stage of evaluation.

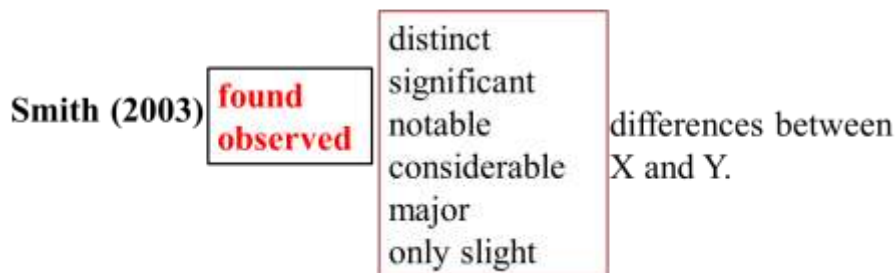
For example, by **comparing specific aspects** of A and B, we can decide which is more useful or valuable.

## Introductory Sentences: Differences

X is different from Y in a number of respects.

X differs from Y in a number of important ways.

There are a number of important differences between X and Y.



## Introductory Sentences: Similarities

The mode of processing used by the right brain

**is similar to that**  
**is comparable to that**  
**is comparable in complexity to that**

used by the left brain.

There are **a number of similarities** between X and Y.

The effects of X on human health **are similar to those** of Y.

**Both** X and Y **generally take place** in a 'safe environment'.

Numerous studies have compared Xs in humans and animals and found that they are essentially identical.

## Comparison within one sentence

Oral societies tend to be more concerned with the present whereas  
while literate societies have a very definite awareness of the past.

This interpretation contrasts with that  
differs from that  
is different from that of Smith and Jones (2004) who argue that ....

## Comparison within one sentence (comparative forms)

Women are **faster/slower** than men at certain precision manual tasks, such as .....

Women tend to perform **better/worse** than men on tests of perceptual speed.

Women are **more/less** likely than men to suffer aphasia when the front part of the brain is damaged.

Women tend to have greater/less verbal fluency than men.

## Indicating difference across two sentences

It is very difficult to get away from calendar time in literate societies. By contrast,  
In contrast,  
On the other hand, many people in oral communities have little idea of the calendar year of their birth.

## Indicating similarity across two sentences

Young children learning their first language need simplified input. Similarly,  
Likewise,  
In the same way, low level adult L2 learners need graded input supplied in most cases by a teacher.