Chapter 8

DISCUSSION

In this chapter, we look at the fourth section of the experimental research report. Usually titled discussion, it is the last major section of the report, followed by the list of references. In the discussion section you step back and a broad look at your findings and your study as a whole. As in the introduction, researchers use the discussion section to examine their work in the larger context of their field.

Sometimes this section is called "conclusions" instead of "discussion". In either case, the writing conventions reflect some common features.

Information convention

This section moves the reader back from the specific information reported in the methods and the results sections to a more general view of how the findings should be interpreted. Look at the following discussion section from a research report in the field of entomology.

Elements of Discussion
1- Original hypothesis
2- Findings
3- Explanation for findings
4- Limitations
5- Need for further research

Ordering your Information

The information that you include in this section depends greatly on the findings of your study; however, the specific-to-general movement is a convention that most writers follow. The kinds of information that you can include in your

discussion section are not fixed. However, the first elements are typically those that refer most directly to the study and its findings. They include:

First Information elements in Discussion:

Specific Reference to the study

1- A reference to the *main purpose or hypothesis* of the study

2- A review of the *most important findings*, whether or not they support the original hypothesis, and whether they agree with the findings of other researchers.

3- Possible *explanations* for or *speculations* about the findings;

4- *Limitations* of the study that restrict the extent to extent to which the findings can be generalized.

As the discussion section continues, the writer moves the reader's attention away from the specific results of the study and begins to focus more generally on the importance that the study may have for other workers in the field.

Later Information elements in Discussion:

General Statements about the study

5- *Implications* of the study (generalizations from the results)

6- *Recommendations* for future research and practical applications

NOTE:

The order of discussion elements shown here is not strictly followed by all authors. However, the progressive move from specific to more general information elements is conventional.

Researchers Position towards the findings

In the discussion section more than any other place in the report, researchers make explicit their own views on the study and its findings. The researcher may take a position with respect to the *explanations, limitations*, or *applications* of the findings (Elements 3, 4, 5, and 6)

RESEARCHERS POSITION ON INFORMATION IN THE DISCUSSION

Position	Information element
One possible explanation is	that speed jobs do not tax older workers to their limits .(*explanation*)
We can no longer assume	that it is satisfactory to seek explanations only in economic factors. (*implication*)
We acknowledge	that other industries may produce different results. (*restriction*)
Clearly ,	this technique has promise as a tool in evolution of forages. (*application*)

LANGUAGE CONVENTIONS

In this part of the chapter we examine the sentence structure used in the discussion section to present elements of information and to give a point of view about that information. We also look at the verb forms that commonly occur in this section and at some of the special expressions authors use to indicate their positions towards the information they present.

Complex Structure in Discussion Statements

To accommodate the information requirements of the discussion section, writers often use statements that are complex in grammatical structure-that is,

that contain *main clause* and a *noun clause*. Typically, the *researcher's position* is carried by the *main clause* while the *information* being reported is contained in the *noun clause*.

COMPLEX SENTENCE STRUCTURE IN DISCUSSION STATEMENTS

Main clause (researcher's position)	**that**	**Noun clause**
We can conclude with certainly	that	both theories are able to explain significant amounts of variance.

Verb Tenses used in Discussion Statements

The verb tenses used in discussion section depend on the type of information you want to present. Remember that the first information elements of the discussion refer specifically to the study and its findings. The verb tense most commonly used in refereeing to the purpose, the hypothesis, and the findings is the *sample past*.

VERB TENSES IN FIRST DISCUSSION ELEMENTS:
Simple Past Tense

Referring to the purpose

EXAMPLE: This research ***attempted*** to assess two theories of behavior.

Referring to the hypothesis

EXAMPLE: We originally ***assumed*** that physical decrements would be more apparent in speed jobs than in skill jobs.

Restating the findings

EXAMPLE: The principle of readability ***was not followed*** in the income tax booklet of any of the states studied except Virginia.

NOTE: In some fields the *present perfect* tense may be used in referring to the purpose.

In discussion statements that explain possible reasons for, or limitations to, the findings, the *past, present* or *modal auxiliaries* may be used. This choice depends on whether the explanation for the specific findings is restricted to your study (past) or whether it refers to a *general condition* (present). Modal auxiliaries may also be used to emphasize me speculative nature of these statements.

VERB TENSES IN FIRST DISCUSSION ELEMENTS:

Past, Present, and Modal Auxiliaries

Explaining the findings

EXAMPLE: It is possible that microbial activity *caused* some immobilization of labial soil phosphorous. (*restricted to study*)

EXAMPLE: It is possible that microbial activity *causes* some immobilization of labial soil phosphorous. (*general condition*)

Limiting the Findings

EXAMPLE: Our sample *was* very small.

EXAMPLE: Our industries *may produce* different results.

When comparing your findings to those of other researchers, use the *present tense.*

VERB TENSES IN FIRST DISCUSSION ELEMENTS:
Present Tense

Comparing findings

EXAMPLE: These results *are* in substantial agreement with those of Bates (2).

As you move from the specific considerations of your study to broader, more general statements about the importance of the study as a whole, use *simple present tense* and *modal auxiliaries/ tentative verbs*.

VERB TENSES IN LATER ELEMENTS:
Present and Modal Auxiliaries/Tentative Verbs

Implications

EXAMPLE: It *appears* that squatter housing markets behave as economically rational entities.

Recommendations and applications

EXAMPLE: The approach outlined in this study *should be replicated* in other manufacturing plants.
EXAMPLE: We *recommend* that the approach outlined in this study be replicated in other manufacturing plants.

Expressions Indicating the Researchers Position

The main clause of a complex sentence in the discussion section often contains special expressions that indicate the researcher's own point of view, or position, towards the information contained in the noun clauses. At the beginning of the discussion section, certain expressions make it clear that you are reconsidering *the hypothesis* of your study.

EXPRESSIONS FOR RESTATING THE HYPOTHESIS

Main clause (position)	+	**THAT**	+	**Noun Clause (information)**
It *was anticipated* The theory *led us to infer* In line with this hypothesis, *we assumed* The results *seem inconsistent* with our hypothesis		that		older workers in speed jobs would have poorer performance than younger workers.

Other expressions are typically used when you need to explain your findings

EXPRESSIONS FOR EXPLAINING FINDINGS

Main clause (position)	+	**THAT**	+	**Noun Clause (information)**
These results can be explained by *assuming*		that		skill increases with experience.
One reason *could be*		that		Jobs in light manufacturing do not tax older workers to their limits.
It is *unlikely*		that		age of the subjects had much of an effect on attitude.

Still other expressions are used when you wish to suggest the *implications* of your findings.

EXPRESSIONS FOR SUGGESTING IMPLICATIONS

Main clause (position)	**THAT**	Noun clause (information)
These findings	*suggest* *imply* *lend support to the assumption* *lead us to believe* *provide evidence*	that frost affects the pan by breaking its massive structure