WRITING THE REVIEW OF LITERATURE

WHAT IS A LITERATURE REVIEW?

It is not a term paper. You are not reviewing information as much as you are reviewing the literature that contains the information. The creation of a literature review is one of the most difficult and important tasks faced by scientists. It requires the culmination of many skills including library research, logical arrangement of information, and scientific writing.

The purpose of the literature review may be many fold but usually it is the first step in the process of doing scientific research. Before any scientist approaches the lab bench, they first approach the body of primary literature. It might surprise you to learn that most literature in science is rather useless in that it is never cited in other publications. It is estimated that only 5% of the publications in the natural sciences are useful in terms of being accurate, significant and worthy of guiding future research. Thus, the role of a good literature review is to find and present the pertinent work from the primary literature in a logical, organized manner and to bring the reader as up-to-date as possible. Primary literature is defined as peer-reviewed journals that publish the original research findings.

PLANNING

First, collect all the relevant articles (15 – 20). Second sort the articles into groups that go together. Third, give a short title to each group of articles. Next meet with your instructor to go through the groups of articles and order them from broad to narrow.

Then type an outline - This gives the details of organization of the information covered in the review. Each item listed will correspond to the titles of each group of articles. Each article within the group and the key point to be discussed will be listed on this outline. You are not allowed to begin writing anything until this has been approved by your instructor.

Outline is due ____

Text - The first section of the text should be the introduction. Here you will define the topic and in doing so, give appropriate historical perspective of the topic. The remainder of the text will be the various sections as outlined. The text should end with a succinct summary or conclusion section on the most relevant findings of the review or a discussion of the future directions of research based on the logic of the information presented.

Literature cited - Here you will list only the citations of the articles that were referenced within the review. Do not use footnotes in the text for referencing. Everything in your text other than your own thoughts should be referenced. The reader should be able to find the original source of all the information presented. It is better to over-cite than to under-cite. Use the format of your field to make bibliography.

Reviews are due ____

There are no exceptions to these deadlines. I advise that you make several backup copies of your work as you progress through the writing.

SCIENTIFIC WRITING:

In a word, this means **succinct**. Use the fewest number of words but be precise and clear.

Other rules for this review:

1. Write in the **past tense**. You are writing about information that was discovered in the past. Many journal editors allow authors to write in present tense when dealing with what are referred to as "continuing situations", i.e., it was true in the past, is true presently and will be true in the future. There is some latitude for this in the introduction where you are describing the general status of your topic but when you are writing about the articles that you have found to up-date the topic, write in the past tense.

2. Do not write in the first person. Again, some editors allow this but it is poor scientific writing. Instead of writing "We (He, They) found this and that" write "This and that were found" or "It was reported that this caused that" etc.

3. **Do not borrow language**. That constitutes plagiarism and is not permitted, even though you may have cited the article. Write in your own words according to your own understanding of the material. Do not quote.

4. Do not use material from the Internet unless it is a professional, peer-reviewed scientific journal, of which there are now many on the Internet. Most of these are published by professional associations. If you are not sure of the validity of your source, ask your instructor for clarification.

5. Type the review double-spaced, use Geneva 12 point double spaced, and staple the review at the upper left corner. **Do not use any paper clips, binders or covers**.

HOW LONG SHOULD IT BE?

Quantity is not relevant. Quality is! Plan to write 3 – 4 pages and include at least 15 references. This endeavor will be a significant part of your grade. You will learn a great deal from this exercise, not only about your topic, but also about how to learn science. I doubt that there are many topics that you could choose that would have fewer than 50-100 recently published articles. Most have several hundred or thousands. It is your task to find the relevant articles and make sense of them.

MORE TIPS ON WRITING:

Miscellaneous rules commonly violated:

Don't begin a sentence with a numeral. Spell out acronyms on their first use (unless generally known such as DNA). Try not to use passive voice.

Be succinct (i.e., precise, clear and use the fewest words possible):

Examples:

Wordy = During the year of 1988, the CDC decided to do a national survey in an attempt to elucidate and evaluate the extent of HIV infection that was thought to exist in women throughout the entire country.

Colloquial = In 1988, the CDC *did* a national survey to *see* the HIV that women *get*.

Redundant = In 1988, the CDC conducted a *national* survey to determine HIV prevalence among women *nation-wide*.

Succinct = In 1988, the CDC conducted a national survey to determine HIV prevalence among women.

WORDING:

Poor wording = The amino acid in the sixth position of the b-globulin protein was changed and *it* was unable to maintain the original configuration.

What does "it" refer to, the amino acid or the protein?

Clear wording = The b-globulin protein was unable to maintain the original configuration due to the change in the sixth amino acid position.

TENSE:

Word experimental evidence and recorded observations in the past tense. Only use present tense for general information and continuing situations.

Present tense = African American AIDS patients *are* diagnosed with CMV retinitis at a later stage than white patients.

Remember that you are reporting on literature, not on the information. You have no way of knowing if the example above is true today or will be true tomorrow. You are only reporting what was found in this past study.

Past tense = African American AIDS patients *were* diagnosed

Tense switching (and wordy) = The educational message that *has* been delivered by these kinds of programs *was* that no risk activity *is* safe and that exposure to blood *was* dangerous.

Better = These programs delivered the educational message that risk activities and exposure to blood *were* dangerous.

Excerpted from http://it.stlawu.edu/~tbudd/litrev.html