

TIPS FOR GOOD WRITING

Code and Organize Your References

Students typically photocopy a number of articles to use in writing a paper. Once the writer is sitting at the computer, the problem of actually knowing what to say is confronted. Two steps may be helpful in getting past this block. On the title page of each article copied, indicate which chapter or chapters in the proposal or thesis each article pertains to. For example, perhaps it relates to the introduction, methods, or discussion. Note this on each article so that it can easily be identified. Then collate the articles according to the section or chapter of the paper they pertain to.

Develop an Outline

A good deal of outlining has already been done within the framework of each chapter of the proposal, but more extensive outlining is needed within certain sections or chapters, such as the introduction, review of literature, and discussion. To do this, one must begin reading the sections of the articles that apply. For example, if developing an outline for the introduction, read and highlight these articles and develop the outline as you go along, or you might try an initial outline something like this:

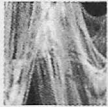
- What is known?
Describe this state of knowledge and cite pertinent references.
- What is not known?
Identify the shortcomings in the research citing related references.
- What is controversial?
Mixed or antagonist findings are common in research. Describe the inconsistencies and cite references.
- What are limitations and recommendations of other studies?
Point out the major flaws of other research as well as the suggestions of other authors.

These steps may greatly help get you started. However, a special tip may be useful for the introduction, review of literature, and discussion. The difficulty here is trying to collate and compare a number of studies. A useful technique is to make a table that includes the key elements needed (Table 6-1). The tabling method allows organizing and viewing the key elements of a number of studies simultaneously. It facilitates analysis of studies because they can be grouped according to findings, such as those reporting

TABLE 6-1. Table Method of Summarizing Literature

<i>Authors</i>	<i>Year</i>	<i>Subjects</i>	<i>Design</i>	<i>Results</i>	<i>Limitations</i>
Smith & Howard	1988	110 children, K–3rd grade	PE curriculum: fitness vs traditional (games, skill, some fitness)	Fitness significantly greater than traditional on 3 of 5 fitness tests but no differences on social variables	Three teachers Study only 6 weeks long

significant effects and those not reporting significant effects; characteristics of subjects; and limitations. Tables are sometimes used in review articles for the same reason: They can be used to help write a section of a paper to facilitate interpretation.



Read the introduction of a journal article in your field. Examine the logic used to justify the need for the study.

Use a Dictionary

There is no excuse for misspelled words. Use the spell check on the software you are using.

Use a Thesaurus

A thesaurus provides a list of synonyms. Most of us, if we were to examine the number of times we use some words, would be astounded at the frequency of use. Writing the introduction, review of literature, and discussion is particularly likely to cause the overuse of certain words, such as *studied*, *investigated*, *found*, and *concluded*. The software for most word processors contains a thesaurus, so when you are looking for a “new” word, a listing is made available on the screen. Use it.

Although a thesaurus is helpful to select alternative words, it should not be used to search for long, infrequently used, and not commonly understood words. This does not add to the quality or comprehensibility of a paper; rather it does just the opposite and should be avoided.

Review the Paper Several Times

Some students may review or proof their papers only once before submitting them. One review is insufficient simply because there is too much to attend to. If striving for quality work, separate reviews, each with a single purpose, are helpful. First, review the paper for content, since this is the most important aspect of any paper. After making revisions,

review just for grammar and repetitiveness of words. Then, review purely to make sure all necessary components have been included. Can you imagine the shock of a student when



Review your paper several times before submitting it.

a paper is returned and the grade suffered because a major section was omitted? This happens when one is disorganized and rushing to complete a paper in the last several days before a due date.

Understand and Avoid Plagiarism at All Costs

Plagiarism is defined in *Merriam Webster's Collegiate Dictionary*, tenth edition, (1993) as "To steal and pass off (the ideas or words of another) as one's own." Note that the ideas and thoughts of others are included in the definition, so it is not merely limited to just their words. If the exact words are used, it is necessary to cite the reference and place the words in quotation marks (for short quotations) or to indent and single-space the



Plagiarism includes the words as well as the ideas of others.

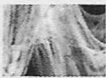
words that are quoted (for quotations longer than 50 words). Both techniques visually highlight the fact that the words and thoughts are not your own.



When in doubt about citing a reference, cite it.

A valid question about plagiarism arises when one considers whether or not nearly all information in a research paper is based on the thoughts and ideas of others and therefore should be referenced. An effective rule of thumb here is that if the idea or thought is known to you from past knowledge or experience or it is considered general knowledge, it does not need to be cited. This leaves much to the writer's sense of ethics, which usually suffices if the spirit behind the purpose of plagiarism is understood. However, realize that if others, such as the professor grading the paper or journal reviewer, disagree with you, you will be held accountable. In some cases, the penalty may be as severe as receiving a failing grade for a paper or even being dismissed from an institution.

Academicians take plagiarism extremely seriously. A student writing a paper has two options when confronted with the issue of referencing information: discuss it with your professor, if time permits, or simply reference the source. The worst that will happen if you make this decision is that you may have more references than perhaps needed. However, this is not usually a concern unless it becomes excessive. *So when in doubt, cite the reference.*



Cite the source when using the words or *ideas* of another person.

Most students are probably well aware of Internet sites that provide papers and essays on every topic imaginable. A few students might be tempted to use such Internet sources, but the flip side is that the Internet also makes it easier to catch them. For example, the

search engine Google allows checking portions of a paper suspected of being taken from an Internet source to identify matches with actual published work.

COMMON FAULTS IN WRITING

Writing is an art form with numerous rules, most of which we know intuitively from our daily reading and formal education. Although it is beyond the scope of this book to review the many rules of grammar and composition, we would like to share with you some of the most common mistakes in writing. If you are able to avoid most of these, your papers in graduate school will be much better.

Verbose and Pedantic Style

Verbosity refers to being overly wordy, that is, beating around the bush. Many of us remember writing themes and papers that met a length requirement. This is commonly done to make sure that all students do some minimum of work that is believed to be conducive to achieving a learning objective. Although it is undoubtedly of some value, it may not be optimal in trying to produce the best quality of work, since it encourages padding and quantity, often at the expense of quality. Writing in research, however, emphasizes brevity and clarity. This saves time for readers and, by saving space, allows for publication of more studies in a given journal. Most research publications limit the length of submitted manuscripts to about 25 pages, including references, tables, and figures. In addition, the number of references is limited in some publications. Therefore, researchers tend to write succinctly rather than in a circuitous fashion. With practice, the ability to be brief and to the point is improved.

Some examples of wordiness appear in Table 6-2. Occasional use of the longer versions is not a major problem, but if your writing becomes saturated with extra words, at some point it begins to slow the reader unnecessarily.

Pedantic writing occurs when writers strive to show off their intellect by using uncommon words. One could say, "Deport to an environment conducive to academic endeavor," which more simply could be stated as "Study in a quiet place." Similarly, one could say, "Assume the supine position in a comforting manner for a period following

TABLE 6-2. Examples of Wordiness

<i>Wordy</i>	<i>Alternative</i>
Long period of time	Long time or long period
Month of June	June
At a rapid rate of speed	Fast
Decreased number of	Fewer
In close proximity to	Near

neuromuscular activity” or “Take a rest after exercise.” The object of writing in research is to communicate. The examples provided here are more a puzzle than an aid.

Do not confuse the use of scientific terminology with being pedantic. Terminology exists to give exact meaning to words. This enhances communication. The phrase “The respiratory exchange ratio exceeded 1.05 for all subjects” may appear to some as being



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pedantic, but to those trained in exercise physiology the terms are well known, easily understood, and specific.

Attempting to say it much differently would likely require more words, which may not be as well understood. For these reasons, all disciplines have their jargon.

Clichés

Clichés are overused figures of speech that are best deleted. They do not enhance meaning but do add length to one’s writing. Some common clichés are shown in Table 6-3.

Subject–Verb Agreement

A sentence in which a singular subject is followed by a phrase in which the object is plural often tends to cause subject–verb disagreement. For example:

Proper intake of essential nutrients (is, are) is vital to good health.

Answer: “is” agrees with the subject, *intake*.

Control of all variables in a study (is, are) important.

Answer: “is” agrees with the subject, *control*.

Each participant recorded (his or her, their) intake of all food and drink consumed for two weekdays and one day of a weekend.

Answer: “his or her” agrees with the subject, *participant*.

TABLE 6-3. Common Clichés

<i>Cliché</i>	<i>Preferred</i>
First of all	First
A considerable amount of	Much
Last but not least	Last
At this particular time	Now
Accounted for by the fact	Because
It is suggested that	Possibly

Parallelism

Phrases in a sentence should use the same grammatical form. Here are several examples:

The following were obtained from the subjects: medical history, height, and weight, and then we measured their blood pressure.

Corrected: The following were obtained from the subjects: medical history, height, weight, and blood pressure.

When teaching young children, wear a smile, be organized, have supplies ready, and if an emergency occurs you should have previously developed a plan.

Corrected: When teaching young children, wear a smile, be organized, and have supplies and an emergency plan ready.

Misused Commas

Commas should clarify meaning, but if improperly used they can change the meaning of a sentence. Examine these illustrations:

The student, thinks the teacher, is a fool.

Meaning: The student is thought to be a fool by the teacher.

The student thinks the teacher is a fool.

Meaning: The teacher is thought to be the fool.

The meanings are entirely changed by the insertion or absence of commas.

Vogue Words

Vogue words enjoy short-term popularity. If they remain in common usage, they become clichés. Simplify communication by using simpler words. Some past examples of vogue words are *exacerbate, ameliorate, interface, expertise, via, vis-à-vis*.

Redundancy

Repetitiveness adds length without meaning because both words mean the same. Here are some common examples: *basic essentials, refer back, viable alternative, authentic replica*.

Jargon

Jargon is technical terminology often mixed with obscure long words. A few examples are borrowed from Day (1983). See if you can understand what is meant by each.

It has been posited that a high degree of curiosity proved lethal to a feline.

Answer: Curiosity killed the cat.

From time immemorial, it has been known that the ingestion of an "apple" (i.e., the pome fruit of any tree of the genus Malus, said fruit being usually round in shape and red, yellow, or greenish in color) on a diurnal basis will with absolute certainty keep a primary member of the health care establishment absent from one's local environment.

Answer: An apple a day keeps the doctor away.

A sedimentary conglomerate in motion down a proclivity gains no addition of mossy material.

Answer: A rolling stone gathers no moss.

Symbols

Symbols are used in research to denote certain statistics and mathematical functions. Their main value is saving space on the printed page. Some of the rules for using symbols, which are not widely known, are described here.

1. Do not capitalize the letters unless the unit is derived from a person's name or you are using L for liter, which is done to avoid confusing it with the number 1.
2. Do not use a period after the letter and do not add an s to make it plural. There are exceptions to the s rule, however.
3. Leave a space between the symbol and number.

Examples of appropriate use of symbols:

Cholesterol = 200 mg/dL

Body weight = 82 kg

Misuse of Words

Day (1983) describes several words commonly misused by writers. Notice how the meaning is altered in each example.

Only The word *only* can be positioned in several places in the following sentence. However, note the change in meaning depending on the location.

I hit him in the eye only yesterday.

I hit him in the only eye yesterday.

I only hit him in the eye yesterday.

It If the antecedent (i.e., the word or thought being referred to) is not clear, the meaning can be changed. "Free information about venereal disease. To get *it*, call 555-7000." Problems with confusing antecedents commonly occur when a sentence refers to something in a previous sentence but two or more words could be the item being referred to. To avoid the problem, restate the word to which *it* refers: "Free information about venereal disease. To obtain the information, call 555-7000."

Abbreviations

Abbreviations, as with symbols, are used to save space in writing, which in turn may facilitate reading. Writing the name of the professional organization, the American Alliance of Health, Physical Education, Recreation, and Dance, rather than using the abbreviation AAHPERD, becomes tedious for both the writer and reader. However, overuse of abbreviations, particularly if they are not commonly used, can be aggravating. Sometimes experimental groups in studies are abbreviated. For example, imagine a study in which four groups are compared based on their preference of recreational activities. One group might be abbreviated VO for those selecting vigorous outdoor activities; a second group is termed MO for moderate outdoor activity; a third group is termed SI because of their preference for social interaction while they recreate; and a fourth group is labeled SS for sedentary activities done alone or as a single. Although the abbreviations are logical when initially defined, they are not standard and require the reader to deal with four new abbreviations as they read the article. It frustrates most readers to have to refer several times to the spot where the abbreviations are initially defined. Consequently, minimize the use of uncommon abbreviations.

Define the abbreviation the first time you use it and note its abbreviation in parentheses. This includes the abstract, since the information here should be self-explanatory. Do not use an abbreviation in a title, because it may create problems for indexing and abstracting services and for information retrieval systems. Use only standard abbreviations, such as those listed in the *Council of Biology Editors Style Manual* (1978) or those in *Système Internationale* (SI) units.

Tense

Tense can be a tricky issue in writing a research proposal. Some portions of the research proposal are written in the future tense because the research is in the planning stage and is yet to be carried out. For example, the second chapter of the proposal deals with the purpose, hypothesis, limitations, and so on, all of which deal with the future. The chapter on methods is also written in the future tense because it describes the plan for a study yet to be conducted. The review of literature is written in the past tense because published works are described. This means that in writing a proposal, the future, present, and past tenses will all be used depending on the chapter and situation. In writing the results and discussion chapters or sections of a research paper or thesis, the past tense should be used.

Active versus Passive Voice

Researchers have generally used the passive voice (third person, i.e., he, she, they) in writing rather than the active voice (first person, i.e., I, we), perhaps trying to be modest. Consequently, in articles we typically read "it was found" or "Smith and Johnson reported" rather than "I" or "we." It is not wrong to use the active voice, and some experts recommend doing so because it is more direct and precise and less verbose (Day, 1983).

Some journals even encourage authors to use the active voice. However, because the issue is somewhat new and inconsistent, it would be wise to check with your professor.

Unemotional Tone

Write in a somewhat detached, unemotional manner. You may not win a Pulitzer Prize using this style, but it helps objectivity. Superlatives and qualifiers, such as *extremely*, *unusually*, *very*, *considerably*, and *marked*, are best deleted, since they are inexact. Use less emotional words and let numerical values be interpreted by the reader.

Numbers

The guideline used by the American Psychological Association (APA) is to use words to express values below 10 and numbers for values 10 through 99, that is, five subjects, 15 subjects. Numerals are also used for values below 10 if included in a list of numbers, some of which are greater than 10, such as 3 women, 56 men, and 78 children.

Use numbers whenever they immediately precede a unit of measure, for example 3 km, or when they are used in a statistical or mathematical sense, such as fractions and ratios, such as F ratio = 3.17, 2.5 times larger, 3:2 ratio. Lastly, use numbers when referring to time, age, dates, points on a scale, and amounts of money: 3 months, 5 years old, 5 on a scale of 1 to 7, and \$5.

User-Friendly References on Writing

Several excellent books on effective writing are surprisingly brief. They are filled with useful tips that we never learned before or have forgotten. Day's book is masterfully done because it is simply written, is fairly short (188 pages), and covers each segment of the research paper as well as information on manuscript submission, the review and publishing process, preparation of conference reports, and so on. Another valuable reference on writing is Strunk and White's *The Elements of Style*. This 92-page classic covers elementary rules of usage, principles of composition, misused words and terms, and style. It is filled with many useful examples of errors we all commonly make and see. The third reference that every graduate student should know is the American Psychological Association's *Publication Manual*. It covers every aspect of writing a paper that one might ever wish to know, and it is logically organized. Its coverage includes items listed in the two previous books but also includes great detail on headings, margins, numbers, tables, figures, references, and typing instructions. It is difficult to imagine anything relevant to writing that is not covered in this book.



Summary


Good research writing is an art. To be a good artist or writer, one must practice. Write so that your work can be quickly and easily understood. No one enjoys being confused and lost halfway through a sentence or paragraph. A helpful tip to remember when

writing is the KISS principle: Keep it simple, Stupid! When in doubt, shorten the length of sentences and paragraphs.



Learning Activities

1. Have you accomplished the objectives stated at the beginning of the chapter? If not, reread the concepts you are uncertain about.
2. Read a research article and assess it for clarity, grammar, verbosity, active or passive voice, emotional tone, and so on.



ESSENTIALS OF
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