

75 Billion The total number of connected IoT devices expected by 2025.

ADVICE

Some Tips for Academic Writing and Using Microsoft Word

It is worth reconsidering how we approach one of our most common tasks: writing. Because of the demand on producing written materials frequently, this is particularly important for people early in their academic careers. Abraham Lincoln once said: “Give me six hours to chop down a tree and I will spend the first four sharpening the axe.” This article describes some techniques that are useful in academic writing, particularly for Microsoft Word but also available in other similar tools.

USING DASH AND HYPHEN

There are different types of dashes and hyphens that are used in professional writing:

Hyphen (-) separates components of a compound word (e.g., long-standing) and in prefixes and suffixes (e.g., de-Stalinization).

En-dash (–) indicates spans or differentiations, replacing “to” and “and” (e.g., years 1754–1763, US–Canada border, pp. 81–101).

Em-dash (—) shows a break in a sentence or parenthetical statements (e.g., A flock of sparrows—some of them juveniles—alighted and sang.).

Double-hyphen (--) provides an em-dash when you do not have a typing tool like Word (with no space around it). With a space after, it is used in electronic signatures (e.g., -- Sophie Smith).

QUOTATIONS AND ITALICIZING

There are no universal rules on how to use quotations, but there are certain conventions that are commonly followed in academic writing.

The purpose of a double quotation

- Introduction
- + Literature Review
 - The Traditional Theory
 - + Challenging Findings
 - + Older studies
 - The primary assumption of the traditional theory was that increased fidelity could improve the training outcome. This assumption, that was never systematically verified, was noticed and questioned by subsequent research in the field. One way to challenge the traditional theory was through showing how low-fidelity training systems could be as effective, or more effective, in training than high-fidelity systems; numerous research projects tried to show this possibility.
 - In one of the early critical articles in the field, Fink and Shriver (1978) reviewed the training systems for maintenance tasks that was used during the 1950's and 1960's, and questioned the trend towards realistic simulations that the nascent computational systems of that time could provide.
 - Recent findings
 - Summary
- Discussions
- Toward Domain-Specific and Human-Centered Theories
- References

A snapshot of the Outline View in Word.

is to note material quoted directly from a source. But it can be used for other reasons. When introducing a word or phrase used as an ironic comment or slang, or as an invented or coined expression, you can use double quotation (e.g., considered “normal” behavior). In this usage, use quotation marks only the first time the word or phrase is used. To cite a letter, word, phrase, or sentence as a linguistic example, or to introduce a technical or key term, do not use double quotation. Instead, italicize the term (e.g., we call it *fidelity-transfer correlation*).

Mainly in American English, the

use of single quotation marks is within double quotations to set off material that in the original source was enclosed in double quotation marks (e.g., In their study they found that “the ‘fidelity of simulation’ should not be of concern.”¹).

OUTLINE VIEW

Academic papers and books have headings in different levels—a heading might have several sub-headings, each having their own sub-headings, and so on. When writing such docu-

¹ Partially derived from the *Publication Manual of the American Psychological Association* (6th Ed).



Around the world, mobile carriers have begun offering 5G wireless service. But a slow rollout and limited compatible devices, means that 4G networks are still preferred.

ments, one can get lost in the text, especially if the document is large and has various levels of headings. Word's Outline View (shown in the figure) helps you manage a document's structure and allows you to have an abstract view of the document as you write. This makes the writing and thinking easier.

STYLES

Use Word's Styles feature to format sections in your document. For example, you can use the "Title" style for your titles, and "Text" style for the main text of the document.

Instead of going through several steps of editing (like spacing, font, color, or italics) across many parts of the document and monitoring their uniformity one by one, you can use Styles and choose the kind of formatting you need for each paragraph type; Word does the formatting for those types across the whole document.

As a side note, you can change Word's default formatting for new documents, so that every time you open Word, the formatting of a blank page is your default preference. To do this, create a blank Word document, and click on the small opening tab on

the right bottom corner of the Font menu, set up your formatting, and press "Set As Default." You can do the same for the Paragraph menu in which you can decide spacing, indentation, alignments, and other options.

SECTION AND PAGE BREAKS

A Section Break should be used for separating different sections of a document when they have a different structure. For example, if you want to have a section with one column per page, and another section with two columns, you should insert a Section Break after the first section and write in the two-column structure in the next section. Page Break is used to separate different sections with the same structure. We suggest using page breaks when using outline mode to prevent formatting problems.

KEYBINDINGS

In the following, we describe some available options in Word and their key-bindings (or keyboard shortcuts).²

Hidden text. If you want to have personal notes in a document that you want to keep invisible at first sight or in printing, you can hide them in your document. To do this, select the text, and press Ctrl+Shift+H. To show the hidden text, press Ctrl+*.

Non-breaking space. If you reach the end of a line in Word, it will automatically break the line and goes to a new line at the closest space character. To prevent Word from breaking a

line at a certain space character, you can insert a non-breaking space. For example, you would not want Word to break a line at the space in "730 ms" or "ad hoc." To insert non-breaking space, press Ctrl+Shift+Sp.

Non-breaking return. When you insert return (or press Enter), Word usually adds a space between the current line and the next line. But sometimes you do not need space between lines. For example, you may want to divide a title into two lines without additional space between them. For this reason, you can press Shift+Enter and insert a non-breaking return.

Character formatting. These key-bindings are applied directly to the selected text. Ctrl+B applies bold formatting, and Ctrl+I applies italic formatting. Ctrl+[or] changes the font size one point at a time. Also, to change a piece of text to uppercase, lowercase, or to capitalize, press Shift+F3 (press multiple times for the three available formattings).

Due to layout constraints, a detailed version of this column can be found at <http://acs.ist.psu.edu/reports/dR19.pdf>.

Biographies

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This article describes some techniques that are useful in academic writing.

² These keybindings are for Microsoft Windows; Mac equivalents can be found at <https://support.office.com>.