

Academic English

Section 8: Citing Sources for Sciences

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- How to avoid plagiarism
- When using sources in your papers, you can avoid plagiarism by knowing what must be documented.
- Specific words and phrases
- If you use an author's specific word or words, you must place those words within quotation marks **and** you must credit the source.
- Information and Ideas
- Even if you use your own words, if you obtained the information or ideas you are presenting from a source, you must document the source.
- **Information:** If a piece of information isn't common knowledge (see below), you need to provide a source.
- Ideas: An author's ideas may include not only points made and conclusions drawn, but, for instance, a specific method or theory, the arrangement of material, or a list of steps in a process or characteristics of a medical condition. If a source provided any of these, you need to acknowledge the source.

- Common Knowledge?
- You do not need to cite a source for material considered common knowledge:
- **General common knowledge** is factual information considered to be in the public domain, such as birth and death dates of well-known figures, and generally accepted dates of military, political, literary, and other historical events. In general, factual information contained in multiple standard reference works can usually be considered to be in the public domain.
- **Field-specific common knowledge** is "common" only within a particular field or specialty. It may include facts, theories, or methods that are familiar to readers within that discipline. For instance, you may not need to cite a reference to Piaget's developmental stages in a paper for an education class or give a source for your description of a commonly used method in a biology report—but you must be sure that this information is so widely known within that field that it will be shared by your readers.
- If in doubt, be cautious and cite the source. And in the case of both general and field-specific common knowledge, if you use the exact words of the reference source, you must use quotation marks and credit the source.

- Hamp-Lyons & Courter (1984, pp. 161-166) distinguish between four types of plagiarism:
- outright copying
- paraphrase plagiarism
- patchwork plagiarism
- stealing an apt term
- Examples:
- Original TextWhile the Education Act of 1870 laid the groundwork for the provision of elementary or primary education for all children in England and Wales, it was not until the implementation of the 1944 Education Act that all girls and boys were entitled to a secondary education. Indeed, the decades immediately following the Second World War saw such a rapid increase in educational provision - in the USA, and many countries of Western and Eastern Europe, as well as in Britain - that some writers refer to the 'educational explosion' of the 1950s and 1960s. The minimum school-leaving age was extended from 14 to 15 years (in 1947) and raised to 16 (in 1971-2), but the proportion of people choosing to pursue their studies beyond this age hurtled upward; by 1971, 30 per cent of 17- year-olds were in full-time education in schools or colleges, compared with 2 per cent in 1902, 4 per cent in 1938, 18 per cent in 1961 and 22 per cent in 1966. The Robbins Report (1963) undermined the view that there was a finite pool of ability - a limited number of people who could benefit from advanced education - and provided ammunition for the expansion of higher education. This expansion took place through the establishment of new universities and growth of existing ones, as well as through the conversion of colleges into polytechnics which could offer degree courses, and the founding of the Open University. In 1970, 17.5 per cent of 18- year-olds entered further or higher education on a full-time basis (compared with 1.2 per cent in 1900, 2.7 per cent in 1938, 5.8 per cent in 1954, and 8.3 per cent in 1960); another three million people enrolled for part-time day classes, evening classes or sandwich courses.
- Bilton, Bonnett, Jones, Stanworth, Sheard & Webster (1981, p. 381)
- Outright copying is when a student uses exactly the same words as the original author without using quotation marks or saying where the words are from. For example:

- Student's textWhile the Education Act of 1870 laid the groundwork for the provision of elementary or primary education for all children in England and Wales, it was not until the implementation of the 1944 Education Act that all girls and boys were entitled to a secondary education. Indeed, the decades immediately following the Second World War saw such a rapid increase in educational provision in the USA, and many countries of Western and Eastern Europe, as well as in Britain that some writers refer to the 'educational explosion' of the 1950s and 1960s.
- **Paraphrase plagiarism** is changing some of the words and grammar but leaving most of the original text the same. For example:
- Student's textThe Education Act of 1870 put down the basis for providing primary education for every child in the United Kingdom. It was not, however, until the establishment of the 1944 Education Act that all male and female children were given the right to education at secondary school.
- **Patchwork plagiarism** is when parts of the original author's words are used and connected together in a different way. For instance:
- Student's textThe right to elementary education for every child in England and Wales was established in the 1870 Education Act. However, the right to secondary education had to wait until the implementation of the 1944 Education Act. Following that act, in many countries of the world, there was such a rapid increase in educational provision that it was called the 'educational explosion' of the 1950s and 1960s.
- **Stealing an apt term** is when a short phrase from the original text has been used in the students work, possibly because it is so good. For example:
- Student's textIn England and Wales, all 5 year all children have had the right to an education since 1870. This has not, however, been the case for 11 year olds, who had to wait until 1944 for a national system of secondary education. Once this system was established, though, secondary education expanded rapidly in the decades immediately following the Second World War.

- The <u>Council of Science Editors (CSE)</u> offers <u>three systems of documentation</u>. In all three systems, a **reference list** at the end of the paper provides all the information your reader needs to track down your sources. **In-text references** in your sentences show your reader which sources support the claims and information of that sentence.
- Citation-sequence and citation-name
- Name-year

- CSE Citation-Sequence Documentation & CSE Citation-Name Documentation
- In both CSE citation systems described here, numbers in a sentence refer to sources listed at the end of the document. These two systems differ only in how sources are numbered in the reference list: sequentially (citation-sequence) or alphabetically by author's name (citation-name).

- Name-year
- A quick overview of CSE styles
- The systems differ in the details of how they format in-text references and how they organize the reference list. For more information about each system, click on the appropriate link below:
- In the <u>citation-name</u> system, number your sources alphabetically by each author's last name in the reference list at the end of your paper. In the sentences of your paper, cite these sources using the number from the reference list. This means that the in-text citation ¹ refers to the first source in your alphabetical list.
- Example from <u>Charkowski (2012)</u>:
- Despite this, there has been significant progress in modeling gene regulation in SRE, including mathematical models of virulence 75 and examination of gene expression at the single cell level 87,158,159,166

- In the <u>citation-sequence</u> system, number your sources in the reference list at the end of the paper by the order in which you refer to them in your paper. In the sentences of your paper, cite these sources using the number from the reference list. This means that the in-text citation ¹ refers to the first source mentioned in your text.
- Example from <u>Newbury (2013)</u>:
- These interactions have been implicated in many systems, including small molecules ⁴, peptides ⁵, proteins ⁶, peptoids ⁷, and nucleic acids ⁸.

- In the <u>name-year</u> system, list (but do not number) your sources alphabetically in the reference list at the end of your paper. In the sentences of your paper, cite these sources by giving the author's last name and year of publication in parentheses.
- Example from <u>Wattiaux (2005)</u>:
- Milk urea nitrogen can be used as an indicator of the adequacy of protein and the balance between energy and protein in lactating dairy cow diets (Broderick and Clayton 1997; Wattiaux and Karg 2004a) and as a predictor of urinary nitrogen excretion (Kauffman and St Pierre 2001; Kohn et al. 2002; Wattiaux and Karg 2004b).
- For a class paper, check to see if your instructor prefers one of these systems. For a journal article, check the journal's instructions to authors to find out which system to use.
- For a full description of these systems and the philosophy behind them, consult Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers, the Seventh Edition (2006) of the CSE manual.

- In-text references
- Format in-text references
- The style advocated by CSE suggests that numbers appear in superscript, and appear before punctuation marks (commas or periods).
- Example from *The CSE Manual*:
- Traumatic life events and posttraumatic stress disorder (PTSD) are endemic among American civilians ¹.
- However, many scientific journals format these numbers differently, using square brackets or parentheses, or putting superscript numbers after the period.
- Example from <u>Communicative & Integrative Biology (2011)</u>:
- The most fundamental specialization of the eusocial insects is the division of colony members into two castes, workers (functionally sterile individuals) and reproductives.¹
- Example from <u>Current Opinion in Cell Biology (2012)</u>:
- The classical cadherin system connects cadherins to the actin cytoskeleton via b-catenin and a-catenin to maintain tissue integrity in metazoans [1].
- Example from <u>mBio (2012)</u>:
- Although xylem is considered a nutrient-limiting, low-oxygen environment (1), *R. solanacearum* is well adapted to it, growing to cell densities of 108 to 109 CFU/g stem while still remaining limited to xylem (2).
- For consistency, the examples that follow have been reformatted to match CSE's preferred style (superscripted numerals before punctuation).

- Number in-text references
- In the citation-sequence system, sources are numbered by order of reference so that the first reference cited in the paper is ¹, the second ², and so on.
- In **citation-name**, the sources are numbered alphabetically so that ¹ refers to the first source in an alphabetical list, ² refers to the second source in that list, and so on.
- When possible, put numbers immediately after the relevant word or phrase rather than at the end of a sentence.

• Cite multiple sources in one sentence

- If the numbers are not in a continuous sequence, use commas (with no spaces) between numbers. If you have more than two numbers in a continuous sequence, use the first and last number of the sequence joined by a hyphen.
- Example from <u>A new model for caste development in social wasps</u> by UW-Madison Professor Robert Jeanne (Entomology) and postdoc Sainath Suryanarayanan (Community and Environmental Sociology):
- For the non-dimorphic polistines such as Polistes, Ropalidia and others, the long-standing view is that differences in the quantity of nourishment received during the larval stage act as a "nutritional switch" to bias development toward one caste or the other ^{7,8,11-14}.
- Example from <u>Cadherin complexity</u>: <u>recent insights into cadherin superfamily</u> <u>function in C. elegans</u> by UW-Madison graduate student Timothy Loveless (Cellular and Molecular Biology) and Professor Jeff Hardin (Zoology):
- Basolateral foci of HMP-1 and DLG-1 accumulate despite unperturbed localization of LET-413/Scribble ¹⁹, which normally excludes AJ components from basolateral surfaces ^{23,24}.

- Cite one source in multiple sentences
- Once you have assigned a source a number, use that same number every time you cite it.
- Example from <u>Contrast Agents for Magnetic Resonance Imaging Synthesized with Ring-Opening Metathesis Polymerization</u> by UW-Madison Biochemistry postdoc Matthew J. Allen and Professors Ronald J. Raines and Laura L. Kiessling:
- Moreover, the use of ROMP is advantageous because it can yield polymers of well-defined length ⁶. To synthesize the target polymers 8a and 8b we employed the ruthenium initiator (H2IMes)(3-Br-py)2(Cl)2RudCHPh. Its rate of initiation relative to propagation affords polymers of well-defined average lengths ^{6,8}.
- Example from <u>The Role of Secretion Systems and Small Molecules in Soft-Rot Enterobacteriaceae Pathogenicity</u> by UW-Madison Professor Amy Charkowski (Plant Pathology) et al.
- Once associated with an insect, some isolates of *Pectobacterium carotovorum* can infect and persist in *D. melanogaster* and activate an immune response ^{8,9}. The protein Evf (*Erwinia* virulence factor), present only in insect-associated strains, promotes the persistence of bacteria in the insect midgut. Evf synthesis is regulated by SlyA (Hor), which also regulates plant virulence genes ^{1,9}.

Cite sources in tables and figures

 Avoid using superscripted numerals in figures where they might be misconstrued as exponents. Instead, use superscripted letters like ^{a,b} for tables and figures. List them sequentially after all the text citations.

Quote or excerpt a source

- Although CSE provides rules for how to quote or excerpt sources, in practice almost no scientists publishing in journals that use CSE documentation choose to quote sources. Instead, these authors paraphrase or simply cite authors.
- When you quote or excerpt a source, include an in-text reference to help your reader see what source you are quoting from. The seventh edition of the CSE Manual does not provide specific rules for identifying the page number or other location information for that source.
- Cite a work cited by your source (secondary citation)
- Secondary citations refer to material that you have not seen in its original form but rather have obtained from another document that cited the original source. In the 2006 edition of the *CSE Manual*, secondary citations are not listed as a valid form of citation. Instead, find and cite the original source.

End references and the reference list

- The goal of your reference list is to help your reader identify each numbered source quickly and clearly. CSE has standardized the information to be provided for ease and predictability of reading.
- What to call your reference list
- "Reference list" is CSE's generic term for the list of sources at the end of your document. Your list should be given a more formal title: References or Cited References. If you used some documents as sources but did not cite them in your paper, list them alphabetically by author under the heading Additional References.

Format your end references

- Authors' first names are rendered as capitals after their surnames. Otegui MS, Kiessling LL, Batzli J.
- Only the first word of a book or article title should be capitalized. The fat-soluble vitamins: handbook of lipid research 2.
- Titles are not italicized. However, species names are italicized. In vitro and in vivo reconstitution of the cadherin-catenin-actin complex from *Caenorhabditis elegans*. Proc Natl Acad Sci. 2010 Aug 17;107(33):14591-6.
- To save space, journal titles are abbreviated according to the ISO 4 standard, shortening significant words and omitting insignificant words. Read more and search the List of Title Word Abbreviations at ISSN.org. Livestock Prod Sci. Biochem Mol Biol Educ.
 J Dairy Sci.
- Year of publication and volume number are required for all references to articles. Issue number is strongly recommended. To save space, use no spaces to separate an article's date, volume, and page. Annu Rev Phytopathol. 2012;50:425-49. Mol Plant Microbe Interact. 2011 Jul;24(7):773-86.

Examples of end references

- Book
- References for books follow the order Author(s). Title. Edition. Place of publication: publisher; date. Extent.
- ¹ Allen C, Prior P, Hayward AC. Bacterial wilt: the disease and the Ralstonia solanacearum species complex. St. Paul (MN): APS Press; 2005. 508 p.
- [A book's extent in number of pages ("508 p." in the example above) is optional but provides useful information.]

Book chapter

- References for chapters or other parts of a book follow the order Author(s).
 Chapter title. In: Editor(s). Book title. Place of publication: publisher; year. Page numbers for that chapter.
- ² Otegui MS. Endosperm: development and molecular biology. In: Olson OA, editor. Endosperm cell walls: formation, composition, and functions. Heidelberg (Germany): Springer-Verlag; 2007. p. 159-178.
- ³ Allen, C. Bacteria, bioterrorism, and the geranium ladies of Guatemala. In: Cabezas AL, Reese E, Waller M, editors. Wages of empire: neoliberal policies, repression, and women's poverty. Boulder (CO): Paradigm Press; 2007. p. 169-177.

Journal article

- References for journal articles follow the order *Author(s)*. *Article title*. *Abbreviated journal title*. *Date;volume(issue):pages*.
- To save space, CSE suggests that writers abbreviate the titles of journals in according to the ISO 4 standard, which you can read about at ISSN. You can also search ISSN's List of Title Word Abbreviations.
- 4 Wang Y, Zhu J, DeLuca HF. Where is the vitamin D receptor? Arch Biochem Biophys. 2012 Jul 1;523(1):123-33.
- 5 Powell JM, Wattiaux MA, Broderick GA. Evaluation of milk urea nitrogen as a management tool to reduce ammonia emissions from dairy farms. J Dairy Sci. 2011;94(9):4690-4694
- ⁶ Flores-Cruz Z, Allen C. Necessity of OxyR for the hydrogen peroxide stress response and full virulence in *Ralstonia solanacearum*. Appl Environ Microbiol. 2011;77(18):6426-6432.
- Reference list information for articles found online adds a medium designator—[Internet], including the brackets—at the end of the title of the journal, as well as a citation date and a URL. The *CSE Manual* does not explicitly require this information if the online content is identical to the print content.
- Werling BP, Lowenstein DM, Straub CS, Gratton C. Multi-predator effects produced by functionally distinct species vary with prey density. J Insect Sci [Internet]. 2012 [cited 12 Sep 2013]; 12(30). Available from: insectscience.org/12.30
- 8 Bennett AB, Gratton C. Floral diversity increases beneficial arthropod richness and decreases variability in arthropod community composition. Ecol Appl [Internet]. 2013 [cited 12 Sep 2013];23(1):86-95. Available from: http://labs.russell.wisc.edu/gratton/files/2013/03/Ecological-Applications.pdf

Internet resource

- ⁹ Williamson RC. Deciduous tree galls [Internet]. Madison (WI): University of Wisconsin-Madison; 2004 Apr 25 [cited 2013 Sep 12]. Available from http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Deciduous_Tree_Galls.pdf
- 10 ASAP: systematic annotation package for community analysis of genomes [Internet]. Madison (WI): University of Wisconsin-Madison; c2013 [cited 2013 Sep 12]. Available from http://www.genome.wisc.edu/tools/asap.htm
- 11 Stem Cell Research Oversight Committee. University of Wisconsin-Madison policy for multisite research studies using human pluripotent stem cells [Internet]. Madison (WI): University of Wisconsin-Madison; 2009 [cited 2013 Sep 12]. Available from http://www.grad.wisc.edu/admin/committees/scro/documents/MultisiteresearchpolicyFinal.pdf

Government document

¹² Working Group on Diversity in the Biomedical Research Workforce (US). Draft report diversity in the biomedical research workforce [Internet]. Bethesda (MD): National Institutes of Health (US); 2012 Jun 13 [cited 2013 Sep 12]. Available from http://acd.od.nih.gov/Diversity%20in%20the%20Biomedical%20Research%20Workforce%20Report .pdf

Dissertation

- ¹³ Oliver SS. Context dependent protein interpretation of the histone language [dissertation]. University of Wisconsin-Madison; 2012. 238 p.
- Conference presentation or lecture
- If a conference paper is subsequently published, either in the proceedings of the conference or in a journal, cite as a chapter in a book or as an article in a journal. Otherwise, cite as follows.
- Vierstra R. Atomic perspectives on phytochrome photoactivation and signaling. Paper presented at: Steenbock 35. Proceedings of the 35th Steenbock Symposium on Advances in Biomolecular NMR; 2011 June 26-28; Madison, WI.

Sources

- https://writing.wisc.edu/Handbook/DocCSE.html
- http://www.scientificstyleandformat.org/Tools/SSF-Citation-Quick-Guide.html
- http://www.uefap.net/writing/writingplagiarism/writing-plagiarism-types

End of Section









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Notes

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[1] http://creativecommons.org/licenses/by-nc-nd/4.0/

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