

Yale University
Graduate School of Arts and Sciences
Guide to Responsible Conduct of Research

Welcome to Responsible Conduct of Research.

Purpose

Academic integrity is a core institutional value at Yale. As members of a community of scholars, we share a responsibility to cultivate an environment in which honesty, trust and fairness thrive. The purpose of this module is to provide students with an opportunity to measure their understanding of what constitutes responsible conduct in research and writing at Yale. Academic dishonesty has not been a substantial problem at the Graduate School. We hope that this module will help students to avoid problems in this area and to strengthen everyone's awareness of the ethical issues that underlie academic integrity.

In January 2007, the module is optional, but all students will be required to complete it once by January of 2008 in order to register for that term.

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Learning objectives

Each of the questions in the module is designed to elicit understanding and provide information about crucial ethical issues in research and writing. The module does not substitute for any compliance work required for participation in federal grants and the like. Instead, it establishes a basis of understanding among graduate students at Yale concerning their entrance into a community of scholars. The questions and their answers cover three major areas: proper citation, collaboration and data management.

You must provide one answer for each multiple choice question in order. After you have answered a question, the module automatically takes you to an answer screen for that question, showing the correct answer and discussing the reasons for it. After having read the discussion, you will be directed to click next question to continue the module. Upon finishing the module, you will be asked to certify that you have completed it on your own. Although you must complete the module, you will not receive a grade. The module is not a test but an opportunity for you to learn.

This module will take you approximately twenty minutes to complete. Your session will time out after sixty minutes of inactivity.

If the questions pique your interest or you think you need to know more about a particular topic, the Graduate School maintains a web page devoted to information about responsible conduct in research. It includes important definitions and a statement of Graduate School policy on responsible conduct in research, as well as useful resources and links. You will have an opportunity to visit this page at the end of the module. Or, if you do not wish to complete the module at this time, you can visit the page [here](#).

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Question 1

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1. Which of the following requires citation?

- a) Lecture
- b) Brainstorming session with a colleague
- c) Remarks made by students in a class
- d) Conversation during office hours with a professor
- e) All of the above

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Question 1

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1. Which of the following requires citation?

- a) Lecture
- b) Brainstorming session with a colleague
- c) Remarks made by students in a class
- d) Conversation during office hours with a professor
- e) All of the above

The correct answer is "e".

There are different forms of acknowledgement, more formal and less, that may be used when citing the contributions of others in your own work. And, as this question illustrates, not all of these contributions are attributable to a page number in a book or to a Web site URL.

In examples A through D above, if any of these interactions yields a unique idea that is not entirely your own, then you must acknowledge it. Such acknowledgement could come in the form of a traditional footnote or endnote depending on the specificity of the idea.

But in the less formal interactions outlined above where more general points of view are developed, a note of acknowledgement in the introduction of your paper or some manner of comment within the actual body of it is in order. For example, in your introduction, you might state: "In developing this particular point, I wish to acknowledge the importance of class discussions in History 522 with Prof. Jones in fall term 2006." Alternatively, you may cite in a footnote a specific conversation with a faculty member with a particular date and location if that conversation resulted in a distinct and defining idea on which your work is based.

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2. Which of the following sources does not require citation?

- a) Content from the Internet
- b) Images from a periodical
- c) Article in a book
- d) Powerpoint presentation
- e) All require citation

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- a) Content from the Internet
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- d) Powerpoint presentation
- e) All require citation

The correct answer is "e".

You must cite the source of any original ideas, data or material created by others to which you refer or which have shaped your scholarship in a specific way. While such material often derives from published scholarly books and journals, less formal and non-refereed materials, such as content posted to the Internet or slides from a presentation that you observe at a conference, are equally bound by the principles of citation.

The style manual used by scholars in your discipline (e.g., the Modern Language Association Handbook, Chicago Manual of Style or Publication Manual of the American Psychological Association) provides guidance on how to cite both traditional sources, as well as those in the electronic environment and various media that have assumed greater prominence in recent scholarship.

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3. Which of the following is common knowledge?

- a) The Aeneid is an epic poem by Virgil written in dactylic hexameter.
- b) Virgil's Aeneid was commissioned by Caesar.
- c) The Aeneid questions the value of war.
- d) The Aeneid is nostalgic in tone.
- e) None of the above

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The correct answer is "a".

Common knowledge does not normally require citation because it refers to what is known by everybody in a specific reference group. It is, therefore, context-specific, which sometimes makes it difficult to know what is or is not common knowledge. What counts as common knowledge amongst a group of scholars in a particular field is different than what counts in another group.

It is, for example, common knowledge among most students and faculty at Yale that plagiarism is not permitted. It may or may not be common knowledge among that group that the Aeneid is written by Virgil in dactylic hexameter, but anyone could verify this by looking at the poem itself. Anyone reading a paper containing statement A could therefore be expected to know the facts stated in A. It is common knowledge among some literary scholars that Caesar commissioned the poem, but perhaps not among other literary scholars, and therefore it would be safest to cite the statement in B, even if not necessary in some circumstances. It is not common knowledge even among literary scholars that the poem questions the value of war or that it is nostalgic in tone. These are opinions and interpretations and must, therefore, be cited if they are not your original opinions and interpretations. It is always better to cite if you have any doubts.

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4. You have read the following sentence in a book you are using as you research a paper: "In later times, Mather's recapitulation of what the middle generation of Puritans had created inspired a new generation of zealots and reformers." This quotation has shaped your thinking in the paper you are writing. Which of the following reflects proper acknowledgement of the source?

- a) In later times, Mather's recapitulation of what the middle generation of Puritans had created inspired a new generation of zealots and reformers.
- b) Mather's recapitulation of the work of the middle generation of Puritans lead the way for a later generation of reformers and strong believers.
- c) When Mather revisited the work of the earlier generation, it "inspired a new generation of zealots and reformers."
- d) "In subsequent times, Mather recapitulated what the middle generation of Puritans had done to inspire a new generation of zealots and reformers."
- e) None of the above

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- e) None of the above

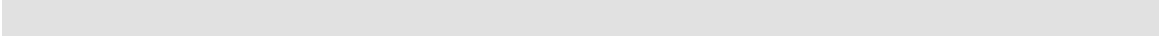
The correct answer is "e".

Answer A simply quotes without acknowledging that it is doing so. Answer B paraphrases the sentence without acknowledging its relation to the source. Answer C. combines paraphrase and direct quotation, but acknowledges the source of neither. Answer D. attributes the quotation but misquotes.

The simple rule of citation is that whenever you use someone else's words or ideas, you must acknowledge that by attributing the material you use to its correct source, and you must cite the material itself correctly. If you use someone's words, the words should be offset by quotation marks. If you paraphrase, you do not need quotation marks, but you still need to attribute the statement. And, if you simply use someone's idea, you need to attribute the idea to its source.

The source for this quotation, by the way, is an article by George McKenna, "'An Holy and Blessed People,' The Puritan Origins of American Patriotism," that appeared in the July issue of the 2002 Yale Review. The Chicago Manual of Style can show you how to write a proper citation for an article that appears in a journal.

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5. When is it acceptable to use material from the Internet without citation?

- a) When you re-phrase the material you are using
- b) When you cut and paste only small portions of the material you are using
- c) When you are using only images or tables
- d) When the material you are using from one site exists on other sites
- e) When it can be considered common knowledge

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- c) When you are using only images or tables
- d) When the material you are using from one site exists on other sites
- e) When it can be considered common knowledge

The correct answer is "e".

Material found on the Internet needs to be treated exactly like any other research materials. If you use ideas, words, images or tables, even if they appear on multiple sites, or even if you use only a small portion of them, must always be properly cited. Common knowledge, as discussed in question 3, does not require citation, whether it is taken from the Internet or anywhere else.

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6. Which of the following scenarios constitutes unauthorized collaboration (that is, working directly with others on a common project) ?

- a) Comparing approaches to a writing assignment with classmates
- b) Meeting with classmates to review notes in advance of an examination
- c) Discussion of source materials with a reference librarian or curator
- d) Comparing answers on a take-home assignment prior to submission
- e) All of the above

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The correct answer is "d".

Comparing answers on a take-home assignment without explicit permission from the instructor would be no different than sharing exam answers in class. Collaboration not authorized by the instructor prevents the instructor from evaluating the work because it is not clear to whom the work belongs.

At the same time, collegiality and the sharing of knowledge are among the hallmarks of university life and distinguishing features of the scholarly profession. There are countless informal interactions on campus each day that involve the discussion of research and writing methods, colleagues helping each other understand complex materials, and guidance in identifying a university's resources throughout networks of collections, holdings, galleries and the like.

Insofar as these interactions are a routine aspect of scholarly activity but do not in themselves produce the ideas that an individual represents in an official manner as his or her own, such collaboration is entirely acceptable. If the interaction itself immediately generates original and specific contributions to scholarship, all participating members of the collaboration must be cited when presenting the ideas that resulted from the exchange.

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7. Which of the following collaborations requires permission from the instructor?

- a) Working on a problem set
- b) Writing a term paper with another student from the same course
- c) Sharing a lab notebook
- d) All of the above
- e) None of the above

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- d) All of the above
- e) None of the above

The correct answer is "d".

By definition, a collaboration is a shared enterprise, a mutual exchange of ideas leading toward a common end. That common end, in the context of course assignments, will likely result in some form of presentation of ideas. The genesis of these ideas is shared among the participants requiring citations that acknowledge the common work. Without guidelines and a clear plan for how attribution will be handled going in to such a collaboration, problems will almost certainly arise. Therefore, whether the medium is a problem set, term paper, or lab notebook, embarking on collaborative work of any kind requires prior permission from the instructor. She or he will clarify for you the way to approach the work, to strategize on how to divide things up, and how to present it in a manner that acknowledges the collaboration while discerning and preserving the integrity of each participant's contribution.

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8. It is acceptable to submit the same paper or lab report for two courses when:

- a) You change the wording somewhat but use the same main ideas
- b) You acknowledge the fact that you are using former work of your own
- c) You have only the permission of the instructor to do so
- d) You add to the original paper or lab report
- e) All of the above

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- e) All of the above

The correct answer is "c".

You might think of double submission of your own work as a form of collaboration--with yourself. This is true whether you re-submit an assignment verbatim, or whether you reword but essentially use the same material again. And, as with any collaboration, it is permissible only when the instructor explicitly authorizes it, and only in the particular instance for which the instructor authorizes it. You should always acknowledge a double submission of work, but acknowledgement, though necessary, is not sufficient. You must also seek the instructor's permission, and you should never assume that this permission extends to any other assignment.

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9. If after publication of a paper, it is discovered that a graduate student author had intentionally falsified data central to the paper's conclusions, which of the following would most likely occur?

- a) A university investigation
- b) A retraction of the paper
- c) Dismissal from the Graduate School
- d) The student will experience difficulty finding a job
- e) All of the above

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- d) The student will experience difficulty finding a job
- e) All of the above

The correct answer is "e".

The integrity of research depends on the honest collection, use, and sharing of data. Incidents of fabrication and falsification of data occur in all fields of research. In some cases, exposure of such unethical behavior makes national news and has consequences beyond those that affect the perpetrator. For example, 40 years ago an investigator was found guilty of painting black patches on white mice to support a claim of successful transplantation. This incident is still routinely cited by those wishing to cut research funding, calling such funding wasteful and not effectively regulated. More frequently, these cases are only known in research circles. Individuals caught falsifying data most often cite career pressure as a central reason for their actions. In fact, such actions destroy careers. The identification of falsification may occur soon after the act was been committed or many years later. Often perpetrators live in fear of being exposed, which may further decrease their ability to perform honest research.

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10. Which of the following is NOT always an example of falsification?

- a) Misrepresentation of a method in a published paper
- b) Exclusion of an anomalous data point from a statistical analysis
- c) Backdating follow-up interviews to meet the time window described by your study's protocol
- d) Modification of data to produce a better variance analysis result
- e) Reporting of experiments that were never performed

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The correct answer is "b".

Although most researchers would prefer to retain all collected data for analysis, some fields have criteria/practices for legitimately excluding outliers. When this is done, the following principles should be observed. 1.) Data exclusion criteria should be developed prior to data collection and should be based on objective standards. 2.) When developing exclusion criteria, investigators should consider the ways in which bias may influence selection. 3.) Documentation must be prepared clearly stating how data were obtained, selected or excluded, and analyzed.

Any publication or presentation of information from a study that involved data exclusion must clearly report the exclusion criteria used and any possible consequence that may result from the data exclusion. Exclusion of an anomalous data point without clearly reporting the use of exclusion criteria would be an example of falsification.

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Congratulations. You have now successfully completed the Graduate School's online module on academic integrity. If you would like further information on any of the topics discussed in the module, please visit our web page [here](#).