

China Medical Board

Biomedical Writing Course

**Lessons on Writing and Publishing Scientific Papers,
Part 1**

- Using Instructions for Authors
 - Choosing Journals

Source:

BIOMEDICAL WRITING COURSE

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Lesson Two

Using the "Instructions for Authors"

OBJECTIVES OF LESSON TWO

By the end of this lesson, you will

1. Know how to use "Instructions for Authors" for English-language scientific journals
2. More fully appreciate the importance of these instructions in the publishing process

ASSIGNMENTS FOR LESSON TWO

The following assignments are explained in more detail in the lesson below.

1. Read the *AJR* "Guidelines for Authors" (pages 2:5-2:7) and the explanatory article, "An Authors' Guide to the Guidelines to Authors" (pages 2:8-2:11). If you have any questions about these, ask your local instructor.
2. Look carefully at the five sets of instructions for authors at the end of this lesson (from *AJR*, *British Medical Journal*, *Circulation*, *Journal of Bacteriology*, and *New England Journal of Medicine*). Pay special attention to the headings. If you have any questions about these instructions for authors, ask your local instructor.
3. Look carefully at "Uniform Requirements for Manuscripts Submitted to Biomedical Journals" (Appendix A).
4. Refer to the five authors' instructions mentioned in Assignment 2 above to answer the questions on the Worksheet 2. (Worksheets are numbered according to the lesson in which they occur.) Give your worksheet answers to your local instructor for feedback.

THE PURPOSES OF INSTRUCTIONS TO AUTHORS

Almost every biomedical journal provides standard advice to those authors who wish to submit papers to the journal. Although the details given in the instructions differ from journal to journal, the purpose of all these sections is the same: **to make the publishing process easier and better for both the author and the journal.**

By reading and using the "Instructions for Authors" provided by the journal to which you wish to submit a paper, you can find out important information about the journal, such as the following:

- What is the purpose or scope of this journal?
- What are the requirements for papers submitted?
- Do submitted papers undergo peer review?
- How long will it be before I receive a decision about my paper?

As you read Day's book, you'll find several places in which he discusses the importance of consulting the "Instructions to Authors." On page 83, he states, "Consider this a cardinal rule: *Before the final copy of your manuscript is prepared, carefully examine the Instructions to Authors of the journal to which you are submitting the manuscript.*" Furthermore, if you look at the authors' instructions before you *start to draft* your paper, you will save some revision time and effort later.

On page 18 of the booklet by Iles, you will also find "Instructions to Authors" mentioned, along with the excellent suggestion to use those instructions to make your own checklist for submitting an article to a particular journal.

In this lesson, we will look at the "Instructions to Authors" from five major biomedical journals. They range in length from 1 page to 12 pages; they cover similar material but in different degrees of detail. By publishing these guidelines, the editors try to help authors submit articles more successfully. In the next 2 weeks, as you select the most appropriate journal for your paper, you will look at the authors' instructions in the relevant journals as part of the selection process.



In *Writing Successfully in Science*, Maeve O'Connor, an experienced editor and a teacher of scientific writing, says this about authors' instructions:

Editors enforce instructions because the instructions are designed to promote swift and accurate publication and to save money. For instance, the common requirements for double spacing and margins of at least 25 mm reduce the chances of embarrassing errors slipping into print and reduce editing and typesetting costs. The time you spend getting the format and style right will be trivial compared with the time and money spent on the research you are describing. The better you observe the instructions the more likely the journal is to make a good job of producing your paper. (page 8)

If you read and follow the authors' instructions printed in the journal to which you're submitting an article, you gain the following benefits:

1. Less time deciding in what format to submit your manuscript (the instructions will tell you, for example, the acceptable margins; paper size; and formatting for references, tables, and illustrations)
2. A faster review (and, if the science is good, faster acceptance and publication)
3. Fewer changes requested by reviewers and editors
4. Fewer (or no) errors in your article when it is published (because typesetters will be making fewer changes to your original)

In short, following the instructions to authors published in a specific journal can help your article be published more easily, more quickly, and more correctly.

THE CONTENT OF INSTRUCTIONS TO AUTHORS

A good overview of the content of authors' guidelines can be found by reading the current "Uniform Requirements for Manuscripts Submitted to Biomedical Journals" and its supplements (see Appendix A). These documents were assembled by an international committee of editors of English-language journals and were first published in 1979. Today, more than 500 journals concur with these guidelines (although most of these journals also publish instructions specific to their publications).

The topics covered in the "Uniform Requirements" and its supplements mirror, to a great extent, the topics discussed in specific "Instructions to Authors." These topics include the following:

•Preparation of Manuscripts

- Title page
- Authorship
- Abstract and key words
- Text (introduction, methods, results, discussion)
- Acknowledgments
- References
- Tables
- Illustrations
- Legends

•Prior and Duplicate Publication

•Units of Measure

•Abbreviations and Symbols

•Submission of a Manuscript (on paper or diskette)

•Conflict of Interest

•Confidentiality

•Peer Review

The 5 authors' instructions that follow come from the journals that published the five sample articles we will use throughout the course (see Appendix B). These journals have given us with permission to reproduce these instructions. Note that these instructions cover many of the subjects listed above. These guidelines also relate to the five sample articles that you will be reading as we proceed through the course. Look through these instructions once to become familiar with them, note especially the headings, and then look back at them to answer the questions on Worksheet 2 at the end of this lesson. The purpose of this exercise is to increase your awareness of the goals and content of authors' instructions as you start considering to which journal you wish to submit your paper.

AJR Guidelines for Authors

In the Supplementary Reading Packet, we included the "Guidelines for Authors" that *AJR* published in late 1980s. We also included an article written by Elizabeth Whalen to clarify the content and the rationale of the guidelines for *AJR* authors.

BMJ Instructions to Authors

The "Instructions to Authors," printed regularly in the *British Medical Journal (BMJ)*, are longer and more detailed than those published each month by the *AJR*. Note the following:

- The first three sections are general information, dealing with the purpose of the *BMJ*, the peer review process, and general instructions that apply to all submissions.
- Under "general instructions," the authors are referred to the "Uniform Requirements" (Appendix A) discussed above.
- After the introductory sections, the instructions become more specific, applying particularly to "original articles" (that is, reports on new research) first and then to "other submissions."
- These instructions indicate that the *BMJ* publishes only about 12% of the articles it receives. Such a low acceptance rate makes it even more important to follow these instructions closely.
- The editorial office is happy to answer individual questions about submissions--either by phone or mail.
- The content of the "Patient Confidentiality" section differs from that in the "Uniform Requirements" supplement; therefore, an author submitting a paper to the *BMJ* must treat photographs of patients as in these instructions, not as indicated in the "Uniform Requirements."
- The treatment of illustrations differs from that requested of *AJR* authors (e.g., arrows should not be placed on the photographs as for *AJR*, but they should be placed on a transparent overlay).
- British spelling and usage is used in these instructions. Generally, English-language journals will accept good papers written in either American or British English, but after acceptance, copyeditors will edit the paper to make the language consistent throughout the journal.
- By concluding its instructions with checklists that referees, statisticians, and technical editors use to judge each article, the *BMJ* gives its authors a clear picture of the criteria by which their articles will be reviewed.

[The *BMJ* Instructions for Authors is included in the Supplementary Reading Packet.]

Circulation Instructions to Authors

These instructions start with general information and cite the "Uniform Requirements" for specific guidelines. Here are some specific notes about these instructions:

- A detailed "Author's Checklist" format is used to request compliance with journal requirements.
- The requirements for submitting illustrations are slightly different from those of the other

journals. The author must attach photocopies of all illustrations to all four copies of the manuscript, and the author must also send in four sets of original illustrations. (The request for four sets indicates that articles commonly are sent to 3 reviewers, while one set is kept in the office file.)

- Note the 2 special pages included with the "Instructions": 1 that the authors must sign to transfer copyright and to indicate any conflict of interest and 1 that gives specific instructions for submitting a paper on diskette (as well as on paper).
- The authors are responsible for the accuracy of references and also for certain costs (the costs of printing color photographs and a printed-page cost).
- These instructions provide detailed advice about use of SI units (the standard units of measure accepted by most English-language biomedical journals).
- These instructions also indicate the precise order in which the parts of the manuscript must be arranged for submission to the journal.
- The editor will select appropriate key words from which the authors can choose the ones they wish to use with their papers. (Many journals ask the authors to provide key words with the first submission.)
- Circulation* uses the style given in the *AMA Manual of Style*; your local instructor has a copy of this reference book, and your institutional library may also have a copy.

[See the Supplementary Reading Packet for *Circulation* Instructions for Authors.]

Journal of Bacteriology *Instructions to Authors*

This is the longest set of instructions that we will look at in this lesson--it's a full 12 pages long, but the type is larger here than in some of the other instructions. Robert Day, the author of our text for this course, was the managing editor of this journal for many years. His influence can be seen in these instructions, which occasionally refer authors to our text, *How to Write & Publish Scientific Papers*.

By reading through this lengthy set of instructions, you can get a good idea of the considerations with which journal editors deal every day.

- These instructions provide detailed discussions of the scope of this journal, scientific nomenclature, and the generation of illustrations (including descriptions of certain computer programs and formats).
- Note the paragraph at the end of the first column on the first page: "Authors who are unsure of proper English usage should have their manuscripts checked by someone proficient in the English language. Manuscripts that are deficient in this respect may be returned to the author before review."
- This journal does not use the *AMA Manual of Style* or CBE's *Scientific Style and Format*. Instead it uses the *ASM Style Manual for Journals and Books*. If you cannot obtain a copy

of this style manual, do not worry. The copyeditors for the journal will make the necessary style changes after your manuscript has been accepted.

- These instructions seem very up-to-date; they request the e-mail address for the corresponding author, if available.

- The authors may suggest both an appropriate editor and potential reviewers for the papers they submit.

- The author is asked to return page proofs of an accepted article within 48 hours. This may seem like a very short time, but it is necessary for the journal's production schedule. The editorial office probably expects foreign authors to fax their proofs to the office. However, if faxing is very expensive, you can fax only the pages on which you make corrections or answer questions; be sure that the fax cover sheet lets the editorial office know exactly what you are faxing.

[See the Supplementary Reading Packet for the *Journal of Bacteriology* Instructions for Authors.]

New England Journal of Medicine *Instructions to Authors*

This concise set of instructions provides less detail than the others in this lesson, but the smart author will pay careful attention to the items that are mentioned here. Because the editors limited themselves to only one page, you can assume that everything included is considered very important.

- There is no general introduction, but authors are referred to the "Uniform Requirements" at the beginning of the instructions.

- Although a checklist is not provided, you can make your own checklist from the information given under "Manuscripts":

- One original manuscript and set of original figures, plus two copies of everything

- 3000 words or fewer (supply a word count)

- Cover letter requirements

- Address for submission

- Triple-spaced text, references, and figure legends

- Double-spaced tables

- Briefly and clearly, these instructions discuss other topics such as units of measurement, conflict of interest, the various sections of the paper, abbreviations, treatment of drug names, and permissions. Authors submitting to this prestigious journal must take care not only to follow these guidelines but also to read and follow the "Uniform Requirements" (Appendix A).

[See the Supplementary Reading Packet for the *New England Journal of Medicine* Instructions for Authors.]

WORKSHEET #2: "INSTRUCTIONS TO AUTHORS"

Using the 5 authors' instructions provided to you in this lesson, answer the following questions. Give the answers to your local instructor for feedback.

Use of "Uniform Requirements"

1. Which of the 5 journals represented here accept papers that comply with the "Uniform Requirements"?

***AJR* Instructions**

2. How long should an abstract be in a paper submitted to the *AJR*?
3. If you are submitting photographs to the *AJR*, should they be mounted on paper?
4. In the reference list, does *AJR* use complete inclusive page numbers (for example, 234-236) or partial inclusive page numbers (for example, 234-6)?

***BMJ* Instructions**

5. What is the stated purpose of the *BMJ*?
6. What are the usual reasons for an article's being rejected by the *BMJ*?
7. What abbreviations can be used in papers submitted to the *BMJ*?

***Circulation* Instructions**

8. In general, what does *Circulation* publish?
9. How many copies of your manuscript do you need to submit to *Circulation*?
10. What is the maximum number of words for a full-length article submitted to *Circulation*?

***Journal of Bacteriology* Instructions**

11. How many copies of a manuscript must you submit to the *Journal of Bacteriology*?
12. In a full-length paper, where do you list the names of those who helped in some aspect but who do not qualify as authors?
13. How much time does the *Journal of Bacteriology* allow for an author to submit a revised manuscript after the author has received the reviewers' comments?

***New England Journal of Medicine* Instructions**

14. For a paper submitted to the *New England Journal of Medicine*, how many paragraphs should appear in the abstract and what labels are used for the abstract's paragraphs?
15. Does the *New England Journal of Medicine* prefer that authors use the generic or brand names of drugs in a scientific paper?
16. If the editors or reviewers at the *New England Journal of Medicine* decide to reject an article, approximately how long does it take them to notify the author?

Lesson Three

Choosing the Right Journal, Part 1 of 2

OBJECTIVE OF LESSON THREE

By the end of this lesson, you will know more about the criteria by which to choose the appropriate journal for your article.

ASSIGNMENTS FOR LESSON THREE

These assignments are explained in more detail in the lesson below.

1. Read Chapter 3 ("What is a Scientific Paper?") in the text by Day.
2. Read Chapter 16 ("Where and How to Submit the Manuscript") in the text by Day.
3. Read pages 10-16 ("How to Find the Right Journal") in the booklet by Iles.
4. Find 3 or 4 English-language journals in your field. Look at 1 or more issues of each journal. Give the list of journals you have examined to the local instructor and e-mail the list to your US contact person. (If possible, also give the local instructor a copy of the "Instructions to Authors" for each of your possible journals.)

INTRODUCTION TO CHAPTER 3 IN DAY'S BOOK: THE DEFINITION OF SCIENTIFIC WRITING

Most texts on biomedical writing agree: you can't decide where to submit a scientific paper until you are sure you have written or are planning to write a scientific paper. Chapter 3 in Day's book distinguishes scientific writing from other types of writing. You should note carefully the specific definition of "valid publication" provided on pages 8 and 9 of this chapter. Don't worry if the indented paragraph on page 9 is difficult to understand; Day explains its meaning clearly in the following paragraphs and provides a summary of the description on page 10.

The 3 major points that you should remember from this chapter are as follows:

1. "Valid publication" has a specific definition that is different from the general definition of publication.
2. Scientific writing is NOT the same as literary writing.
3. "The preparation of a scientific paper has less to do with literary skill than with organization" (page 12). The standard organization, as specified by the "Uniform Requirements" and most individual "Instructions to Authors," is as follows: Introduction, Materials, Results, and Discussion (or IMRAD). (By the way, Day's reference to possible use of IRDAM is a humorous one, although it is worth noting that not all scientific papers work best with the IMRAD formula.)

Stop here and read Chapter 3 in Day's book. Write down any questions you have and ask the local instructor when you have completed this lesson. If you want more information on

the IMRAD organization, read the article "Organizing the Scientific Journal Paper: Guidance on What to Write, Where, and How" by Robert L. Iles," which is provided at the end of this lesson.

INTRODUCTION TO CHAPTER 16 IN DAY'S BOOK AND PAGES 10-16 IN THE BOOKLET BY ILES: FINDING THE APPROPRIATE JOURNAL

Once you know that your proposed paper meets the criteria for a scientific paper, you need to start the process of choosing the journal to which you will first submit it. There are lots of things to consider and lots of English-language biomedical journals to choose from. Even though choosing a journal can be somewhat time-consuming, it is important to do that before you start writing the paper. That way, as you write the paper, you can keep in mind the instructions for that particular journal. This may mean that you will need to revise the paper fewer times, both before you submit it and after it is reviewed.

In Chapter 16, "Where and How to Submit the Manuscript," Day thoroughly covers the topic of choosing a journal. He discusses the importance of considering the journal's prestige, circulation, frequency of publication, and audience. Also, he mentions sources of information about biomedical journals, such as *Current Contents* and *Journal Citation Reports*, which may help you clarify which journal in your specialty is best for your paper.

On the top of page 93, Day says, "Be wary of new journals, especially those not sponsored by a society. The circulation may be minuscule, and the journal might fail before [your paper is published]." Although we agree with this statement in general, we also urge you not to overlook or discard immediately any new journals. The best thing about new journals is that they are usually struggling to find good science to publish because they are competing with established journals. Therefore, your paper has a better chance of being accepted and published quickly than it would have in a more established journal with more readers. And if the small circulation of a new journal encompasses exactly the audience you want to reach, that new journal is a good place for your paper to be published.

We'll come back to this chapter later when we discuss the actual submission of the paper. Finally, the cartoon on page 95 does not contain any information of substance for you; it is simply a joke about the quality of the writing by "Snoopy," a dog in the popular "Peanuts" comic strip.

In his booklet, Iles gives you information about finding the appropriate journal. However, you should realize that the statistics and the lists of journals given are out-of-date, because this booklet was published 10 years ago. However, his general points are still valid, and his suggestions of possible ways to determine the best journal for your paper may be helpful. Also, notice that, on page 16, he mentions state and regional journals as possible places for authors to publish their articles: the right journal for you may not necessarily be on any "Top Ten" list.

By the way, the lists in Iles's Tables 3 and 4 (pages 13 and 14) were probably generated by a method similar to that used by the *Journal Citation Reports*, as discussed in Day's Chapter 16. The principle is the same: the more frequently a journal's articles are cited in other journals, the more readers find out about the articles published in that journal. Also, on page 12, the American idiom "big bucks" is used; it simply means "lots of money."

Stop here and read Chapter 16 in Day's book and pages 10-16 in Iles's booklet. Write down any questions you have and ask the local instructor when you have completed this lesson. For more information on finding the appropriate journal, you can also read the "What Is the Right Journal?"; this article appears on the last page of this lesson.

MORE INFORMATION ABOUT FINDING THE APPROPRIATE JOURNAL

Journal editors agree that finding the appropriate journal is one of the most important steps in getting your paper published. When McCann (1990) interviewed the editors of three major specialty journals, she listed this as their first piece of advice: "Select the appropriate journal to submit your article to, because rejections often come simply because the article is not appropriate for that particular journal" (p. 6).

O'Connor points out that when you know your target journal, you know more about who will be reading your article and that knowledge will help you write the article. On page 5 of her 1991 book, she writes, "All writers, including scientists, must keep their readers in mind while they are writing, so consider who your readers will be and why they will want to read your paper. Thinking about your audience will help you to choose the journal to which you will submit the paper. Choosing the journal will also enable you to look at examples on which you can model the paper and obtain instructions on how to prepare it."

Aside from your texts, three other books by experts discuss the best procedure for choosing an appropriate journal. Each of these books (Huth 1992, O'Connor 1991, Matthews et al. 1996) provides a list of questions to ask when considering to which journal you will submit your article. The following list is a combination of the questions given in these sources:

1. Is the topic of my paper appropriate according to the journal's defined "scope"?
2. How large is the journal's circulation?
3. Who reads the journal, and are they the best audience for my paper?
4. Does the printed "Instructions for Authors" indicate that the format and topic of my paper are appropriate?
5. What is the average time between acceptance and publication of a paper in this journal? (Acceptance dates are often given on the first page of articles, so you can judge from looking at several of those; also, "Instructions to Authors" sometimes provides insight into the time needed for editing and production.)
6. How well are the photographs and other illustrations printed in this journal?
7. Does the journal have high scientific quality but a reasonable acceptance rate (50% or above)?
8. Is the journal covered by the major abstracting and title-listing services?
9. Does the journal require the authors to pay page charges (a set fee for the publication of each page of the article)? Do they charge for printing color figures? If so, can authors with limited budgets request a waiver of these charges?
10. What is the cost of reprints (or offprints--to be discussed in a later lesson)?

Many of these questions will be answered in a detailed "Instructions for Authors." So, as we emphasized in Lesson 2, you need to obtain a copy of these instructions for any journal to which you may submit a paper. Be sure to get a copy of a current "Instructions to Authors." Instructions from 1 year ago are probably all right, but instructions that are 2 or more years old may not reflect the journal's true guidelines. If you cannot obtain a copy of recent

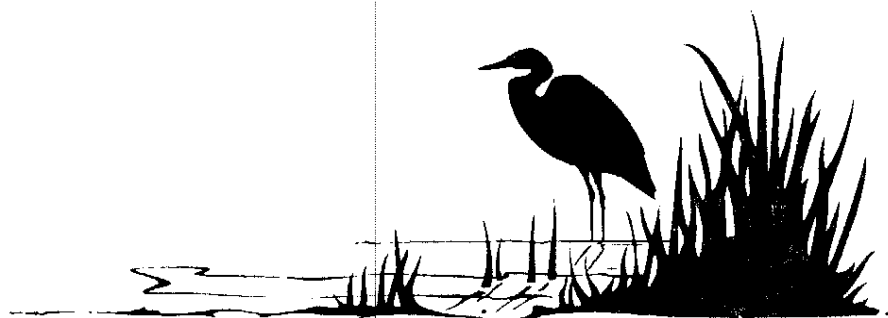
instructions from your library, contact the journal office; they usually will be glad to fax you a copy.

In Lesson Two, you looked at five sample instructions to authors, paying particular attention to the headings. Now, however, you need to read carefully the instructions for the journals you are considering. Read them word-for-word and ask your local instructor about anything you do not understand. If these instructions do not answer some of the above questions that are particularly important to you, you should always feel free to contact the editorial office with questions (by fax, phone, mail, or e-mail when available). You'll find the people in those offices friendly and willing to help.

However, sometimes it is difficult to find the answers to all 10 questions above. If, after trying to find these answers, you are not sure whether the journal's editor would welcome the submission of a certain type of paper on a certain subject, contact the editor-in-chief and ask. (Major journals receive thousands of papers every year, most of which they must reject. For that reason, the staff in these offices are usually happy to answer questions that will help an author decide whether a specific paper is appropriate for their journal. If it is not, they may even be able to suggest a more appropriate journal.)

Now you are ready for the final part of this lesson's assignment. Find three or four English-language journals in your specialty. Look at one or two articles in each and begin to consider which would be best for the paper you are planning to submit. This is also a good time to check the "Instructions for Authors" in those journals, and make a photocopy of these instructions for your files. Send a list of journals you have examined to the local instructor (and a copy of the relevant "Instructions to Authors," when possible) and e-mail the list of journal titles to your US contact person.

AN ENDING NOTE: Please feel free to contact your local instructor with questions about this lesson or assignment.



Lesson Four

Choosing an Appropriate Journal, Part 2 of 2

OBJECTIVES OF LESSON FOUR

By the end of this lesson, you will

1. Be able to use criteria learned in Class 3 to decide to which English-language journal you will submit your manuscript
2. You will know more about the author-editor relationship.
3. You will be ready to read Day's chapter on the Methods section.

ASSIGNMENTS FOR LESSON FOUR

1. Tell your local instructor the name of the journal to which you plan to submit your paper; explain in writing why you have chosen this journal. Be sure your local instructor has a copy of the "Instructions to Authors" from that journal.
2. Read "Why We Edit" and "Cooperation Between Authors and Editors: One Key to High-Quality Publication" at the end of this lesson. List one thing you learned from each article, and give that list to the local instructor.
3. Read Chapter 8 ("How to Write the Materials and Methods Section") in Day's book; if you have any questions, ask your local instructor.



REVIEW: SELECTING A SUITABLE JOURNAL

Last week, you found 3 or 4 English-language journals that seemed suitable for the paper you are writing. This week, you will narrow that selection down to the most appropriate journal. During this course, you will write and revise the sections of your paper in accordance with the author guidelines given in that journal--this procedure will increase the chances that your article is selected for publication there.

Let's review some important criteria for selecting a journal for your paper. Below we list the criteria in order of importance; that is, we believe that Criterion 1 is the most important for you to consider in selecting a journal. You may not be able to find out the information for the other 4 criteria. If you cannot, don't worry; use your best judgment to select the journal that seems most appropriate for your planned article.

1. *Does this journal publish articles similar in topic and format to the article I am writing?*
Look at several issues of this journal to determine the answer to this question. Also, the

authors' instructions can help you to answer this question. If the answer is "no," stop here and look at the next possible journal. Your article may be excellent, but if it is not appropriate for the journal, it will not be published there.

2. *Does the journal have high scientific quality but a reasonable acceptance rate (at least 30-50%)?*

You want to publish your paper in a journal that is respected and that has high standards for scientific content. Sometimes this is difficult to determine, but you may find this information in the Instructions to Authors. If, for example, the journal only accepts 12% of the papers submitted (as stated by the *British Medical Journal* in its author guidelines), the chances of your paper being accepted are very small.

3. *What is the average time between acceptance and publication of a paper in the journal?*

The answer to this question may be useful to you in deciding on a journal. Again, it's not always easy to determine the answer to this question. You might be able to look at one or two issues, check several articles to find the "submitted" and "accepted" dates, and compare those dates with the date of publication to find the time from acceptance to publication. Occasionally, this information will be published in the Instructions to Authors. If you can find the information, you may need to decide whether you can wait 2 years for your research to be published, or do you want it to be published within the next year?

4. *Who reads this journal?*

You want your paper to reach your desired readership, your "targeted" audience. One way to approach targeting your audience is to check the journals that you read and use; these may also be the best ones to publish your paper.

5. *Does this journal ask authors to pay page costs or costs for printing color illustrations? If so, can the costs be waived?*

If you read in the authors' instructions that there is a "printed-page" cost, you may be hesitant to submit your article. However, many journals that impose these costs will also waive them when the authors supply an appropriate explanation. In the United States, much research is supported by grants, and part of the grant money can be used to pay page costs and color costs. If you have no such funds, some journal editors will publish your article at no cost to you, and some indicate this in their Instructions to Authors. You can write or e-mail the editorial office of the journal to determine the exact policy. (You can find the address and other contact information for the journal either near the front of the journal or in the Instructions to Authors.)

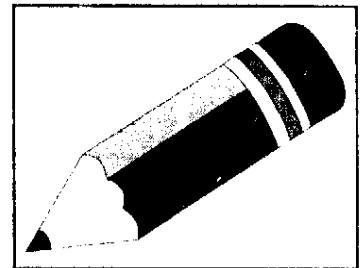
There is one other criterion that you might consider when you are choosing a journal for your paper. Look at 2 or 3 issues to check if any of the articles are written by authors outside North America and Europe. This may indicate to you how willing the editors are to consider your article for publication.

Using these criteria to help choose the appropriate journal gives your research its best chance to be read by your peers. So, look carefully at the authors' instructions and at the articles published in the 3 or 4 journals you selected last week. On the basis of the criteria stated above, choose the journal that you think is most likely to publish your planned paper.

WORKING WITH EDITORS TO ENHANCE YOUR PAPER'S CHANCES OF ACCEPTANCE

In the next class, you will start drafting the Methods section of your paper. Either your local instructor (who has undergone training in biomedical editing) or a teacher we appointed will look at the draft and suggest changes. These suggestions are *always* meant to be helpful, not critical. We will be working with you as "author's editors." An author's editor is an editor who works directly with the authors before the submission of a paper to a journal and helps the author prepare requested revisions. A journal editor works on the article after it is accepted and may make changes for clarity, correctness, and consistency with journal style. As you give your Methods section to your author's editor (either the local instructor or the principal instructor), remember these 3 things:

1. The job of the author's editor is to help the author improve the manuscript so it will have a better chance of being accepted and published quickly by the journal. This editor brings a "friendly, fresh set of eyes" to your manuscript.



2. Although the author's editor may not be an expert in the subject matter of the paper, the editor is trained to detect potential problems in the following areas:

- correctness (for example, improving the English grammar)
- consistency (for example, checking that the data in a table agree with the text)
- conciseness (for example, eliminating repetitious words or phrases)
- clarity (for example, explaining technical material for the reader)

3. When you do not understand an editor's suggested change, it is appropriate to discuss the change with the editor. A friendly discussion can often help clarify your meaning and result in a better sentence or paragraph.

As you write your paper, remember that the copyeditors at the journal office also are your allies. They may help you in 3 ways:

1. Answering any questions that you have before you submit the manuscript
2. Suggesting revisions to your manuscript so it is acceptable for publication
3. Copyediting your accepted manuscript so that it is consistent with journal editorial style and clear to the journal's readers.

You can begin a cordial relationship with these editors (and with the editor-in-chief) now by following the instructions given for authors in that journal. At the end of this lesson, you will find two articles ("Cooperation Between Authors and Copy Editors: One Key to High-Quality Publication" and "Why We Edit"). These two articles were written to help authors understand why editors make changes in manuscript and to explain how authors can help editors so that the final publication is well-written, clear, correct, and consistent.

DAY'S BOOK, CHAPTER 8, "HOW TO WRITE THE MATERIALS AND METHODS SECTION"

This week, as you select the journal to which you will submit your paper, you also will start

thinking about writing the Methods section for that paper. We are starting with the Methods section because, as Iles says (page 2): "The Materials and Methods section is the ideal place to start because that is what you know best--what you did and how you did it."

Part of this week's assignment is to read Chapter 8 in the book by Robert A. Day. This chapter explains both the purpose and appropriate content of the Methods section.

Purpose: Day not only states the purpose of the methods ("to describe . . . the experimental design and then provide enough detail so that a competent worker can repeat the experiment"), but he also explains why it is so necessary to fulfill this purpose ("the cornerstone of the scientific method *requires* that your results, to be of scientific merit, must be reproducible").

Day tells you to give "full details." However, different journals require different levels of detail in this section. Therefore, after you have chosen the journal for your paper, read the Methods sections of a few papers in the journal. Choose papers that are similar to yours in type (for example, clinical study, basic science). The Methods sections of those papers can guide you in writing the first draft of your Methods next week.

Note also that the Methods section is written in the past tense, primarily because you are describing steps you have already taken and experiments you have completed.

Content: Day explains clearly and comprehensively the detail needed to describe the materials used. In the Course Packet for Class 5, we will discuss more fully the details needed about patients or subjects in clinical studies.

Under "Headings," this text suggests that you "construct subheadings that 'match' those to be used in Results." This advice is applicable if you are using such headings as "Group 1" and "Group 2"; "Experimental Group" and "Control Group"; or "Study 1" and "Study 2." However, if you have a heading such as "Statistical Analysis" in the Methods section, you won't need a matching heading for that in the Results.

Don't worry about the content of the second paragraph on page 39. These two sentences are examples of serious sentences made humorous by badly positioned words or phrases. We will be discussing word placement in a later section of this course.

Finally, the last section of this chapter, "Correct Form and Grammar," makes some good points. The distinction between methods (what we did and how we did it) and results (what happened when we did it) is usually clear. However, some journals place "demographic" information in the Methods section, whereas others place this information in the Results section. Demographic data describes the patients or subjects involved in the study; these data may include the ranges and means for the participants' ages, heights, and weights, as well as descriptive statistics such as distribution of race and sex. Once again, as soon as you know to which journal you are submitting your paper, you can look at recent articles similar to yours and find out the preferred placement for these data in that journal.

The end of the third paragraph on page 40 is another joke based on a misplaced modifier (to be discussed later in the course) and the lack of a comma. Because there is no comma after "wire," the reader may think that the researcher was using a rabbit made from straight platinum wire! The fourth paragraph on this page discusses dangling phrases, which we will

also cover later in this course.

On page 41, Day explains the problem in the first paragraph nicely (the researcher should have stated that the parents or guardians of each patient gave written informed consent). In the final paragraph on page 41, the joke is in the word "theatrical": it is only a few letters different from the correct word ("theoretical"), but those letters make a lot of difference.

As you read Chapter 8, think about how it applies to the Methods section for your article. If you have any questions about this section, now is a good time to ask your local instructor. Next week, you will start writing.

AN ENDING NOTE: Please feel free to contact your local instructor with questions about this lesson.

Lesson Five

Overview of a Research Paper and Writing the Methods Section

OBJECTIVES FOR LESSON FIVE

By the end of this lesson, you will

1. Gain a better perspective on the questions answered by each part of an effective research paper
2. Learn more about the proper format and content of the Methods section of research papers and use that information to write a first draft of the Methods for your own papers.



ASSIGNMENT FOR LESSON FIVE

Write a first draft of the Methods section for your paper. This will be explained in more detail at the end of this lesson. Depending on the specific instructions you receive, either give your assignments to your local instructor or send them by e-mail to US contact person.

OVERVIEW OF THE RESEARCH PAPER

Before you start writing the Methods for your paper, let's take a brief look at all the basic components of the research paper. We can see how they fit together by noticing the questions that each section answers.

Title: What is this paper about?