Writing for Scientific Publication*

Beverly Henry, PhD, HonDSc, FAAN**


ABSTRACT: Scientific writing and publication is about professional accountability. Words in writing and publications are powerful sources of influence and knowledge. The techniques of scientific writing is discussed at length as the professional responsibility to write, and write well, in order to disseminate knowledge and hasten scientific progress in the field of nursing. Writing for publication also has an ethical dimension, which is also addressed. The process of writing through submission and publication including double blind peer review is described in detail to help the audience understand the part evaluation by peers plays in contributing to scientific progress and improved professional practice. The unique problems and challenges faced by those for who English is a second language and who must write for submission in English is used as a case study to clarify several conceptual points.

DESCRIPTORS: Writing scientific articles. Scientific articles publication.

Writing is much more difficult than speaking. Writing is exacting. Writing for scientific publication in the professions is about accountability: we are expected to advance knowledge through careful reporting of our philosophies and research.

**Style in Writing**

There are three kinds of writers: those who never think at all; those who think only as they write; and those who have thought before they write. Careful observers and careful thinkers — professionals — belong in the last category. And that is the reason why they write so well.

Good writers employ words: They compel each word to give a proper account of itself. They scrutinize it with the same care as they exercise towards the fact, which they propose to describe. If it is weak, or worn, or superfluous, they cast it aside. Their writing then has symmetry and strength. On the other hand, loose and slatternly writing is a mark of a slovenly habit of mind. Sheer laziness produces the same result. Easy reading is hard writing.

The trade of the pen must be learned. It is easy to pour out a flux of words. It is difficult to range them in order, and make them obedient to the purpose for which they were created. When a person spreads over ten pages what is really exhausted by five her readers are offended.

There is probably more bad writing in nursing journals then in any other kind of periodicals. There are a variety of reasons.

Nurses are busy, and there is so much in nursing about which something may be written that they

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lose their way. Besides, it is a common delusion that the mere fact of attendance for four or five years upon a faculty of a university confers those qualities of aptitude, precision, and harmony, which are commonly required for careful writing.

Accordingly, in nursing journalism, the great standards of English speech have often been lost sight of, and there is a consistent effort to translate plain terms into wordiness and jargon. Nursing process, nursing and diagnosis, nursing issues – the employment of these terms over and over in writing is a mark of a slow-working mind.

Four Elements of Good Writing

To assess your writing ability, you need to understand the four elements of good writing: readability, correctness, appropriateness, and thought.

Readability: Unnecessarily long, rambling sentences are wearing to read. The trick is to judge the complexity and the abstractness of the material being dealt with and to cut sentences down in length and complexity where the going is difficult. Complex ideas stated simply should be our motto.

At the beginning of the communication, identify the skeletal structure of your paper. In effect, frame the discussion that follows.

Clear transitions between paragraphs are also important. A section should usually end with a brief summary. Plus a sentence or two that tells the reader the new direction of the writing is helpful.

Correctness: When told she does not write correctly, the writer often immediately starts looking for grammar and punctuation mistakes. But a far more important aspect of correctness is “coherence”. Be logical. Think and write in an orderly fashion. Be sure your sentences and paragraphs “flow”.

 Appropriateness: Fact is important. But one also must be appropriate. An argumentative or insulting tone is trouble. Use diplomacy. Being overbearing or insulting limits your effectiveness. Avoid being pedantic – preaching to readers.

Thought: What good is it if a message is excellent in all the other respects discussed here if the content is faulty. There is much disorganized writing. Most writers think as they write. In fact, most of us do not even know what it is that we think, until we have written it down. Making an outline before you start is an obvious solution. Think before you write. Then think hard while you write.

Another serious error is writing with thoughtless bias. A writer who is incapable of making an objective analysis of all sides of a question or of all alternatives to action will find her path to the top a dead end. But write persuasively. Persuasion results from a fine sense of discretion, of hinting but not stating overtly things that are impolitic to mention.

Several strategies can be used to write thoughtful papers. Perhaps the most important is brevity. Do not equate complexity with sophistication. Sentences should be short, simple, and direct. So should the paper. But be aware that such brevity does not come quickly or easily—it may require a great deal of time. Mark Twain, that famous American writer and humorist apologized for a long letter by saying: “Forgive the long length of this letter, I did not have time to write a short one.”

A readable paper also requires an obvious organization. Every paragraph needs a purpose. Describe it in the topic sentence, and make sure every sentence is congruent with that purpose. Then paragraphs must be linked to produce a sequence of thought that reflects the “argument” for the central message. An obvious organization in scientific writing is facilitated by the framework used in journals: introduction, background, methods, results, discussion, and conclusions.

Preparing a Manuscript for Submission

Preparing a manuscript for publication is hard work. Authors must strike a balance between being comprehensive and being clear. They must engage

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the reader’s interest and communicate results succinctly. For a research journal, it is common that a 3-year project must be reduced to no more than 18 pages.

Start Early

Writing a good paper is a complex task, it requires both creative energy and quiet reflection. Writing takes time. You can start writing at least three components of a paper before your research is completed. For example, sketch out the introduction at the time your investigation is conceived. Draft the methods while the research is being conducted and you can provide an accurate running account of what is being done, as it is being done. Finally, develop skeleton forms of numeric data (often called dummy tables) early on. Putting something down on paper early is valuable even though you will revise it later.

Decide Which Journal

You should decide before starting to write in which journal you would like to publish. Once you know your target journal, a quick glance at its instructions for authors is time well spent. Focus on the various articles and the associated limitations in manuscript length.

For most medical and nursing journals, much of the remaining information is similar and can be found in the Uniform Requirements for Manuscripts Submitted to Biomedical Journals.

Also, read the editorials in the journal you select. Learn what an editor considers important. And, write for the journal’s audience. Although the audience of a journal can be heterogeneous, one thing that professionals generally have in common is that they are busy. They appreciate brevity and clarity. Nurses, managers, and policymakers may only look at your work briefly, if at all. Although most authors know this, they may not consider it when they sit down to describe their own work. How many, many nurses have said to me when asked to reduce the length of their papers: “But I have so much to say! I must have 25 or 30 pages, not the requisite 18 to 20!” Most could do better by thinking more like a reader and by paying more attention to what readers are most likely to look at: the title, abstract, tables, and figures.

Title and Abstract

Too many authors choose a title and tack on an abstract carelessly. Yet these are the first, and often the only parts of a paper that will be read. Furthermore, they are often the only parts of the paper accessible electronically. Equally important, they are the components of the paper that a journal editor first reviews. They should, therefore, be composed early and subjected to the same level of critique as the body of the paper. Remember, the title of your paper is the first organizing framework for readers. Keep it brief but clear. In your title, assemble the key concepts of your research.

Introduction

The paramount job of an introduction is to motivate the audience to read your paper and to care about the results. In addition, it may be useful to help reviewers and editors judge the paper’s importance. A useful outline for a three-paragraph introduction is as follows.

Paragraph 1: Background. The general problem or current situation.

Paragraph 2: The specific problem or controversy. The general statement of purpose

Paragraph 3: Significance. How this study will help solve the specific problem.

Methods

The methods section must give a clear overview of what was done. Recognize that there is an obvious tension between brevity (you cannot describe every technical issue) and completeness (you need to give adequate detail so that readers know what happened). The methods section should also give the reader some information relevant to generalizability (e.g., How did participants get included? From what population were they sampled?). Also, be sure to give the dates a study was done in years.

Pay particular attention to what you name things that appear repeatedly in the text. Think hard about these labels. Especially any acronyms. They
should be brief yet intuitive. Name an intervention. Ask, what is the one word that best describes the outcome measure? Develop a list of frequently used terms to be sure that you use them consistently. Nothing is more confusing than having the same thing described by different names. Logic and consistency are muddied or lost.

The Uniform Requirements state the following about reporting methods: Describe selection of subjects clearly. Identify the age, sex, and other important characteristics. Identify the methods, apparatus and procedures in sufficient detail to allow other workers to reproduce the results. Replication is all in good science. Give references to established methods, including statistical methods. Provide references and brief descriptions for methods that have been published, but are not well known. Describe new or substantially modified methods, give reasons for using them, and evaluate their limitations.

Reports of randomized clinical trials should present information on all major study elements, including the protocol (study population, interventions or exposures, outcomes, and the rationale for statistical analysis), and assignment of interventions including methods of randomization and blinding.

Statistics

For statistics, follow these suggestions from the Uniform Requirements. Describe statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the reported results. When possible, quantify findings and present them with appropriate indicators of measurement error or uncertainty (such as confidence intervals).

Report complications of treatment. Give numbers of observations. Report losses to observation (such as dropouts from a clinical trial). References for the design of the study and statistical methods should be to standard work when possible rather than to papers in which the designs or methods were originally reported. Specify any general-use computer programs used.

Restrict tables and figures to those needed to explain the argument of the paper and to assess its support. Use graphs as an alternative to tables with many entries. Do not duplicate data in graphs and tables. Avoid nontechnical uses of technical terms in statistics, such as “random,” “normal,” “significant,” “correlations,” and “sample.” Define statistical terms, abbreviations, and most symbols.

Tables and Figures

Visual elements are critical. Tables are typically used to display numeric values—a tool to make a paper more readable by removing numeric data from the text. Tables can also be used to synthesize existing literature, to explain variables, or to present the wording of survey questions.

A figure provides visual impact and thus is often the best way to communicate the primary finding. Figures are traditionally used to display trends and group results. But figures can also be used effectively to communicate processes or to display detailed data simply. Clear, informative figures are invaluable. Think creatively about how to use them. If your study procedure is complex, diagram the steps for readers in a simple figure.

Results

The results section should be short and to the point. Be sure to distinguish primary from secondary results and report primary results first. Use tables and figures to reduce the amount of text in your results section.

Discussion and Conclusions

First, use the discussion section to summarize your work and put it in perspective. Restate briefly the major findings. These findings can then be put in the context of other work by using a more thorough literature review than is appropriate in the introduction and background.

Second, identify limitations, particularly those that threaten the study’s validity. Valid criticisms should simply be acknowledged and discussed. Make no excuses. No paper is perfect. All research is limited. The key is helping readers learn what is more speculative. Also, expected criticisms that may or may not be valid should be introduced and rebutted.
Third, the work should be put in perspective. Assess its generalizability. Consider its clinical implications. Speculate a little, but not too much. Finally, in concluding, consider the question, “What next?”

Good papers are the product of several major revisions and 5 to 10 minor revisions made in response to feedback from others. Testing how well your paper has communicated its case requires that others read it. Making it better requires that you respond to their feedback.

To get feedback, create a cadre of internal reviewers—colleagues who read and critique the paper before it is submitted for publication. “Big names” may not have time or the inclination to do the job well. Younger, more junior faculty may be equally capable, have more time, and be more highly motivated to do a good job.

Encourage reviewers to mark up the paper, but go over these comments in a conversation. Without this interaction, not only do you risk missing certain points, you miss the motivation for the reviewers’ concerns.

There are other important tactics for obtaining feedback. Most important is your own demeanor. Don’t be defensive. Leave your ego at home. You want the best shots and the low blows. Encourage severe criticism. Such feedback only better prepares you for the journal’s review. As you listen to critical feedback, focus on understanding the problems. Assume that any time a reviewer is motivated to mark the draft, a legitimate problem exists. Make sure you understand the reason for concern. Explore the motivation behind each comment and work together to articulate exactly what the problem is. This takes time because the precise problem may not even be clear in the reviewer’s mind. The conversation should continue until you understand what the reviewer had in mind.

Finally, be critical, not of your reviewer, but of his or her suggestions. Although we appreciate guidance, many of us get bogged down with conflicting advice. Taken at face value, problems identified by reviewers are generally valid; their proposed solutions, on the other hand, may be wrong.

Separate issues of style from issues of substance. Take what are clearly good suggestions, but think of alternatives for those that seem less good. When you find yourself reverting to prior revisions, it’s probably time to stop.

**Getting Better**

Becoming a good writer takes time. To give yourself the opportunity to become a better writer, make the time. Use the following suggestions:

- **Don’t rush**
- **Revise frequently**
- Allow yourself the time to step back, digest, and read your work with a fresh perspective.
- Look hard at your overall organizing structure again and again.
- Check for consistency and coherence.
- Eliminate repetition and Clutter. Be concise, clear, succinct.
- Strike a balance between insinuence and acquiescence.

- **Respond to reviews by journal editors and peer reviewers**
- Describe what was changed (and make it easy to find the changes).
- Provide a rationale for what was not changed.
- Serve as a reviewer for others.

**Uniform Requirements for Manuscripts Submitted to Biomedical Journals**

Mention was made earlier to Uniform Requirements. A small group of editors of general medical journals met in Vancouver, British Columbia in 1978 to establish guidelines for the

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*Take from:\nINTERNATIONAL COMMITTEE OF MEDICAL JOURNAL EDITORS. Uniform Requirements for Manuscripts Submitted to Biomedical Journals. Annals of International Medicine, 1997; 126(1) 36-47.*
format of manuscripts submitted to their journals. The group became known as the Vancouver Group. Its requirements for manuscripts, including formats for bibliographic references developed by the National Library of Medicine, were first published in 1979. The Vancouver group expanded and evolved into the International Committee of Medical Journal Editors (ICMJE).

The committee has produced five editions of the Uniform Requirements of Manuscripts Submitted to Biomedical Journals. In nursing, use the guidelines provided in your journal of choice. Where questions arise, use the Uniform Requirements. They are available at http://www.acponline.org.

Problems to Consider Before Submitting a Manuscript

Redundant or Duplicate Publication

Redundant or duplicate publication is publication of a paper that overlaps to a substantial degree with one already published. Readers of primary source periodicals deserve to be able to trust that what they are reading is original, unless there is a clear statement that the article is being republished by the choice of author and editor. The bases of this position are international copyright laws, ethical conduct, and cost-effective use of resources.

Most journals do not wish to receive papers on work that has already been reported in large part in a published article or is contained in another paper that has been submitted or accepted for publication elsewhere, in print or in electronic media. However, this policy does not preclude the journal considering a manuscript that has been rejected by another journal, or a complete report that follows publication of a preliminary report, such as an abstract or poster. Nor does it prevent journals considering a paper that has been presented in a scientific meeting but not published in full or that is being considered for publication in a proceedings or similar format.

What exactly is duplicate publication? Bailey’s five levels of duplicate publication are helpful.5

Level 1: Exact duplication, using identical words or illustrations, of 10% or more of an article.

Level 2: Highly similar content in terms of meaning and message, of 10% or more of an article.

Level 3: Segmented research articles in which related aspects of the same study are published separately (for example, separate methods articles, and reports of data from different sub samples). This is also known as salami slicing.

Level 4: Sequential research articles, in which the same message is published, without new conclusions or recommendations, as the number of subjects studied increased or decreased (e.g., pilot study followed by a larger study).

Level 5: Interdisciplinary duplications in which the same message was prepared and published for somewhat different readership (for example, the same article appearing in two journals in different languages or two highly similar articles appearing in journals for different disciplines).

A useful policy document on duplication is entitled “Duplicate Publication: Guidelines for Nurse Authors and Editors.” (C.H. Yarbro, Journal of Nursing Scholarship 1995: 27; 57). A useful article on the subject entitled “Duplicate Publication in the Nursing Literature” is by Suzanne Smith Blanchett, Annette Flanagan, and Roxanne K. Young. These authors state the following and I quote, “Publishing two identical or highly similar articles in different journals without notifying the editors or referencing each article in the text or reference list has been called self-plagiarism. The most common type of duplication, often called salami slicing, is the practice of dividing different parts of the same study for publication in different articles.”

Duplicate publication is not a good practice because it wastes limited editorial and publishing resources; artificially inflates the importance of topic or study; clutters the literature and databases with identical information; may violate copyright

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law; prohibits productive, innovative authors from publishing original work because of competition for limited journal space; and rewards less productive authors who overload the literature and thereby gain credit for academic inertia. Although in some cases unethical, duplicate publication is not an example of scientific misconduct.

Academic pressures to publish are a significant cause for the proliferation of duplicate journal articles. Nurse academicians must demonstrate scholarly activities by frequency of publication; therefore, publications are means to merit raises, promotions, and grants from funding agencies. Thus, publishing a number of articles from one small study is seen by some as a relatively easy way to enhance one’s curriculum vitae and further one’s career. Another cause of duplicate publication is ignorance; many authors and researchers are not taught authorship and publication ethics.

However, there still seems to be much confusion and disagreement between editors and authors over what constitutes duplicate publication. The editor’s responsibility includes developing a policy on duplicate publication and taking measures to inform all authors. Editors and authors must ensure that readers are informed by adequate citation to all duplicate material in an article’s text and reference list.

Authorship

The Uniform Requirements state that all persons designated as authors should truly qualify for authorship. Each author should have participated for sufficiently in the work to take public responsibility for the content.

Authorship credit should be based only on substantial contributions to research conception and design, data analysis and interpretation; to drafting the article or revising it critically for important intellectual content; and to final approval of the version to be published.

Participation solely in the acquisition of funding or the collection of data does not justify authorship. General supervision of the research group is not sufficient for authorship. Editors may ask authors to describe what each contributed; this information may be published.

The order of authorship should be a joint decision of the coauthors. Because the order is assigned in different ways, its meaning cannot be inferred accurately unless it is started by the authors. Authors may wish to explain the order of authorship in a footnote. A useful published guideline is entitled “Authorship” by the International Academy of Nurse Editors published in the Journal of Nursing Scholarship, 1994, by D. Nativio.

Fraudulent Publication

A third problem is fraudulent publication. “Authors and editors have an ethical duty to protect the integrity of science. Fraudulent publication undermines this integrity. Fraudulent publication includes ‘plagiarism, fabrication, falsification, and other serious deviations from accepted practices’.”

“Plagiarism is presenting the ideas or words of another person without proper attribution. Fabrication is making up data or facts. Falsification is changing or misrepresenting data or facts.”

“When fraud is alleged on the part of an author of a submitted manuscript or a published article, the editor has a duty to notify the involved parties. This may include consulting the author or a representative of the author’s institution or funding agency.

After communicating an allegation, the editor should request to be informed by the author or appropriate representative of the author’s institution or funding agency of the merits of any allegations and the results of any inquiries or investigations. The editor should handle any allegations with confidentiality, due process, and in timely manner protecting both accuser and the accused from recriminations.”

Retractions

“If a fraudulent article or creative work has been published, the editor must promptly print a retraction or a notice of the specific transgression. Retractions or notices should be signed by the

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offending author or authors. If this is not possible, a signed retraction or notice from a representative of the author’s institution or funding agency is acceptable. The retraction or notice must be labeled prominently and should be listed in the table of contents so that it is not likely that the original article can be made in electronic literature databases. Retractions or notices should not be labeled as errata, corrections or letter to the editors. The retraction or notice should include a statement from the author or the author’s institution attesting to the validity or integrity of any work previously published by the author in the journal. If such a statement cannot be obtained, the editor should print out a statement that the journal cannot attest to the validity or integrity of the author’s previously published work.”

**Ethics**

“When preparing a manuscript for publication several ethical issues should be considered. These include duplicate publication, inaccuracy of citations, and fraudulent publication…”

“With respect to the accuracy of citations Biebuyck noted two types of error: (a) carelessness and excessive haste or (b) deliberately misleading or missing information. The purpose of citations is to credit original work, show relationships to the author’s methods and findings, and enable readers to locate sources. Errors can indicate a lack of discipline and carelessness. Sometimes bibliographic inaccuracies can be traced to previous publication errors.”

“In scholarly papers, authors should check and cite primary rather than secondary sources. Original material must be correctly quoted in context and citations must be accurate. Studies of citations demonstrate an error rate ranging from 34% to 56%. Erroneous or missing information from citations may include title, volume number, page numbers, issue number, and journal name. Kirchhoff (1995) describes preventing reference errors by careful proofreading of manuscripts and page proofs.”

**Quotation and Reference Accuracy**

A useful nursing study of quotation and reference accuracy was reported by L. Schulmeister in *The Journal of Nursing Scholarship* (1998: 30; 143-146). The author makes the following useful observations “Reference list of published papers serve several important functions. They provide a method for evaluating the article because the references reflect the thoroughness of the author’s literature search. Another function of references is to help establish the author’s credibility. References also serve as a resource for the reader. Readers of the literature, particularly students and those preparing manuscripts for publication, often retrieve the cited documents. An accurate citation allows the reader to easily locate the reference. Likewise, accurate quotation of information from a primary source credits the original author and reduces the likelihood that the reader will be misinformed.”

Editors assist authors in ascertaining that (a) each source that is referenced appears both in the narrative and citation list, and (b) that the citations in text and reference list are identical in number of authors, spelling, and year. However, final accountability for accurate, complete citations is the authors’, from submission to final review of the copy-edited page proofs. Authors are expected to check each reference carefully against the original source document.

Authors are responsible for all information in a reference. Accurately prepared references help establish one’s credibility as a careful researcher. Editors may ask that for all accepted articles, authors include the first page of all cited original references, with their final submission, for editorial verification of citation accuracy.

**Conflict of Interest**

“A broad definition of conflict of interest is ‘a situation in which personal interest could compromise, or could have the appearance of compromising, the ability of an individual to carry out professional duties objectively’ (Biagioni, 1993, p. 322). Editors periodically review policies and

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procedures to ensure that appropriate disclosure is required of potential presenters and authors.”

“In recent years, reviewers have been asked to not whether they perceive conflicts of interest when they agree to participate in journal activities such as serving on editorial boards or reviewing manuscripts.”

“The issue of financial conflict of interest arose from concerns about the uses and potential abuses of scientific research. Financial conflict of interest is a situation where there is financial association between the authors and a commercial venture. The potential gain an investigator may receive, for example, ownership of stocks and receipt of funds for testing drugs or other products, are of concern. While support is usually acknowledged by investigators, some readers may still question the integrity of results.”

“Financial disclosure is required of authors when submitting manuscripts to most professional journals. Guidelines related to financial conflict of interest include acknowledging all research support (intramural and extramural); stating any financial relationship between authors and commercial products involved in the research; listing any affiliations with a direct interest in the subject matter (e.g., employment, consultancies, stock ownership, honoraria, expert testimony); adhering to the author’s understanding form; and insisting that members of the editorial board and reviewers also disclose any financial conflict of interest in a company or product in competition with that discussed in a manuscript they are reviewing.”

“There are no easy answers to conflict of interest, but conflicts should be discussed to safeguard scientific integrity.”

Peer Review

“Scientific journals rely heavily on outside experts, or referees, to help them assess the manuscripts they receive for publication. Such work is rarely paid for, yet peer review is seen as being essential to the process of maintaining standards of science and scholarship and may help to enhance the status of the journal. Refereeing is usually regarded as part of a scientist’s duty to his or her community.”

The journals I have edited reject between 50% to 85% of all papers submitted. For every journal, there is a degree of consensus by the publisher and editorial staff as to what constitutes the standards of scholarship. Differences in journal space shortages is also a factor.

“Rejection rates are but one feature on manuscript evaluation, however, and they are produced by several features of editorial peer review process. To understand better the nature of editorial peer review, one must examine in greater detail how journals process manuscripts.”

Peer Review

The most prestigious professional journals are double-blind peer-reviewed, for some; the “peer review system uses a ‘singles initial referee. This system sometimes called ‘Refereeing in serious’ sends papers to a single referee. If the referee recommends acceptance, the journal editor almost always accepts the paper; if the referee does not recommend acceptance, the editor either asks for a revision before consulting the same or a different referee or sends the paper to another referee for a second opinion. A second system uses the more prevalent ‘two initial referees’ (also called ‘refereeing in parallel’). Here, editors initially send a paper to two referees; if their assessments agree, the editor usually follows the referees’ recommendation. If the referees disagree, the editor sends the paper to another referee for a third opinion or asks for a revision before consulting the same or different referees. Among US scholarly journals, the two initial referee system is the most prevalent in nursing, the biologic, and the behavioral sciences.

Usually in nursing, for scholarly double-blind peer review an editor reviews and distributes manuscripts to experts unknown to the author selected from an established group of reviewers. Manuscript decisions are based on reviews and

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* Takes from:
  LOCK, S. and SMITH J. What Do Peer Reviewers Do? JAMA (Journal of the American Medical Association) 1990: 263; 1341-1343

* Takes from:
mediated by the editor. Most editors will abide by the decision of reviewers the majority of the time. For non-peer reviewed journals:

1. Editors review the manuscript and seeks consultation from content experts as necessary; otherwise, the editor alone makes the publication decision; or
2. An editor reviews a manuscript and sends it to an associate editor who is responsible for the content area, and who recommends acceptance or rejection in collaboration with the editor.

In nursing, an average of about 7-8 weeks is required after manuscript receipt until a decision is made to accept or reject it. However, the number of weeks ranges from 1 to 30. From manuscript acceptance to publication requires an average of 5 months with a range of 1 to 12 months.

"Journals are but one, albeit an important, element in scholarly communication. To understand the structure and operation of scholarly journal, one must view them in the context of broader characteristics of the communication systems in which they play a part. This implies that there is probably no optimal way to organize editorial peer review for all scholarly journals. Recommendations about journal peer review that do not take the broad disciplinary communication systems into account may lead to less effective editorial practices."\(^1\)

Peer-Reviewers\(^2\)

"One of the criticisms of the peer review system is the bias inherent in the selection of reviewers. A former editor of The Lancet, an opponent of routine peer from utterances that do not blend readily with the group's current thinking. Others have stressed that reviewer and author may be competing for journal space."

Editors know that the reviewers on whom they rely must devote substantial time to reviewing."

"Relman estimated 'conservatively' that reviewing for the New England Journal of Medicine consumed 6 to 7 "man-years" of time donated annually."

Most reviewers are authors themselves whose work is frequently cited by others. Reviewers provide an extraordinary amount of donated time. The scientific establishment depends not only on mutual trust and respect, but also on a substantial input of uncompensated labor.

In the Journal of Advanced Nursing there are about 200 reviewers. They are sent 4-6 manuscripts per year on average. Specialized statistical reviewers evaluate 6-12 papers annually. The average time spent assessing a manuscript is 1-2 hours.

Editorial Decision\(^3\)

Once a manuscript is reviewed, the editor and her assistants make one of three decisions: to accept, to reject, or to revise. Few very manuscripts are accepted initially. Usually 1-2 revisions are requested.

Reasons for Manuscript Rejection

The reasons for rejection in descending order of frequency are as follows:

- Poorly written, readability is low, many unclear meanings;
- Idea poorly developed, logic unclear, not thoughtful, superficial;
- Content inaccurate and incorrect format or grammar;
- Methodology problems, design not described, unclear procedures, validity not addressed;
- Content inconsistent with journal purpose, inappropriate level;
- Content undocumented, citation problems;
- Data interpretation problems, excessive opinion, not set in context of other studies, limitations not discussed;
- Subject covered recently in journal;
- Statistics problems, use of incorrect statistics;
- Clinically not applicable, implications for nursing unclear;
- Duplication, redundancy with past or future manuscripts;
- Content unimportant, trivial, nurses studying nurses to excess;

\(^{10}\) Takes from:

\(^{11}\) Takes from:
Too technical, too detailed;
Subject scheduled for future publication.

**Editor Services and Editorial Boards**

Editors provide several services helpful to authors including:
- Consultation about submission;
- Consultation about revision;
- Advice about revision;
- Copy editing;
- Substantive editing;
- Checking references for consistency with text;
- Checking references for completeness;
- Checking references for accuracy.

Editorial Board members do the following:

- Suggest content and journal priorities;
- Review reports from the editor and publisher;
- Suggest authors;
- Suggest reviewers;
- Set journal policy about duplication; conflict of interest, etc;
- Approve content;
- Approve journal budget.

**Responsibilities of Journals to Readers**

Nursing journals exist primarily for their readers. Although most are launched for other reasons – to provide more visibility for the medical society starting the journal, to give a new publishing outlet for researchers, to supply a new venue for advertisers – the primary goal of most medical journals should be to assist their readers. The basic responsibilities of scientific journals to readers are: inform, instruct, comment, and possibly amuse. Journal must be readable, thoughtful, and accurate. They should also be interesting to read; not boring.

**Types of journals**

Many journals, such as the *Journal of Nursing Scholarship* are published by nursing societies, like Sigma Theta Tau, and most subscribers to such journals automatically receive the journal as part of their membership.

Some journals (including the two most frequently cited medical journals in the world, the *New England Journal of Medicine* and the *Lancet*) are primarily or completely subscriber based. The *Journal of Advanced Nursing* is subscriber-based. Others are sent free of charge. The articles in these ‘controlled-circulation’ or ‘throw-away’ journals are not usually peer reviewed and tend to be more for education than for sharing new information. They are most commonly supported entirely by pharmaceutical advertising. They are often the easiest in which to get your ideas published.

**Types of readers**

Nursing journals serve more than clinicians. They are also for researchers and teachers. Small journals in highly specialized fields primarily serve research scientists in that field. Larger, more general journals also serve this function, but are usually read widely by scientists. Researchers use medical and nursing journals to keep up with important information in their fields and to communicate their work to others to disseminate knowledge. Journals help researchers to improve their chances of promotion and successful grant proposals. Both the quality and the quantity of published articles determine success in academia.

**Readers’ requirements**

It appears that many use journals to keep up with progress, so as to give better care, which in turn will lead to improved health of their patients. Most equate being an excellent clinician with having access to current medical and nursing information in an environment of increasing regulation and accountability. Some see journals as one vehicle for mandated continuing education. Having up-to-date knowledge in the United States is also an important way to minimize the possibility of malpractice litigation. Readers also enjoy the intellectual challenge of mastering new information. Finally, readers seem to enjoy communicating through journals and some contribute actively through Letters to the Editor.

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12 Takes from:  
you haven’t written a letter to the editor sharing your reaction to a published article, do so and encourage your students to get started writing-for-publication in this way.

Editor’s challenge

An editor must decide the appropriate balance in types of articles to be published, a task that grows in complexity as the amount of information grows. Clinical research remains central, but biomedical, and population related research are growing. Disciplines such as health education, sociology, public health, and economics are increasingly relevant to the practice of nursing. How does an editor choose the appropriate balance?

Trends in nursing research determine what papers are written. However, the papers submitted do not necessarily reflect an appropriate balance for the clinician reader. In the United States and elsewhere, for example, the active national research programs on the acquired immunodeficiency syndrome, AIDS, has led to an avalanche of AIDS-related manuscripts.

What is ultimately published is usually the result of an essentially passive process. Journal editors can only choose from what is sent to them, even though they can and do invite some submissions. Nevertheless, what is published is policy usually set by a journal’s editorial board. It behooves a nurse editor to know all national nursing research priorities, then aim – for an all purpose research journal – to ensure to the extent possible, that what is published serves the range of interests represented by the priorities.

Potential authors often scan journals to get a sense of what kinds of articles a particular journal is likely to publish, if articles on AIDS appear regularly, the journal may well receive even greater number on AIDS-related submissions. There is no negative feedback loop. Editors actively determine the right balance of journal articles for readers, not merely passively accept the balance assumed by submitted manuscripts.

Improving communication

Journal editors, particularly editors of general journals, must deal with the challenges posed by all of these developments. Nursing journals have a long tradition of working to improve submitted manuscripts before accepting them for publication, the peer review process itself aims not only to select which work should be published, but also to improve articles chosen for publication.

In the editorial office, manuscript editors work with authors to standardize and improve their presentation. For some journals this work represents substantial effort. At the *Annals of Internal Medicine*, manuscript editors make an average of 3 changes per manuscript line. Also there is the increasing trend for authors whose native language is not English to submit work to the large English-language medical journals. Many of the submissions from these authors contain excellent scientific work but are written in poor or substandard English. A great deal of editorial time is and should be devoted to working with these authors.

Other Responsibilities

Over the years, the editing efforts of scientific journal personnel have given rise to new professions and new organizations, such as the European Association of Science Editors and, in nursing, the International Academy of Nurse Editors (INANE).

Medical journal editors as a group have worked to improve communication, first by standardizing the format of articles with the IMRAD (Introduction Methods, Results, and Discussion) protocol for reporting original research. As noted, in 1978, the International Committee of Medical Journal Editors (the ‘Vancouver group’) was formed.

Another attempt to improve communication with readers has been the evolution of article abstracts. Summaries at the end of articles developed in the first half of the twentieth century, then migrated to the beginning and were called abstracts. More recently, the structured abstract (with specific sections for the objective of the study, design, setting, patients or participants, interventions, main outcome measures, results and conclusions) has been introduced to ensure that all relevant information is systematically included. Structured abstracts are gaining in popularity among nursing journals. For nursing research publications, I consider them essential. JAN will soon use these headings for research articles: Background, Purpose, Method, Results.
Conclusions

Scientific writing for publication is an intellectual task of some magnitude. It is not easy! It takes work. It required constant practice. Starting, then starting again. But writing for scientific publication is what accountable professionals do in the interest of scientific progress; in the interest of sharing their ideas with peers and the public; to expand and order their mind.

Because of the power of the written word, writers and editors must pay careful attention to what they think and write and how they present their ideas in writing. Thoughtfulness, accuracy, and style are uppermost.

As you learn to write for publication, read author guidelines. Read the Vancouver Group Recommendations. Talk with editors. Read their editorials, read their journals for a sense of what they consider important and their preferred writing style.

Do not over or underestimate your ability to get published. Be sure to match your level of expertise with a journal’s requirements. Beginning researchers, submit to beginner level research journals. Expert researchers, submit to advanced research journals. In the United States, the most prestigious is the journal, Nursing Research. Its acceptance rate is very low, about 10%. Journal of Nursing Scholarship has an acceptance rate of about 15% to 20%. Journal of Advanced Nursing accepts about 35% of all submissions. Know your ability. Know the journal for which you are writing. Match the two. Aim high. But be realistic.

There are several useful articles describing the characteristics of many nursing journals. A fairly recent one by McConnell, in 1995, describes the publishing characteristics of 42 journals outside the United States. Take note of the acceptance and rejection rates.

Editors want your written work! We are appreciative of your efforts. We were all beginners at one point in time.

Scientific writing for publication is an art and one that is very worthwhile. Engage in this art. Write and write well. I wish you every success.


RESUMO: A escrita e a publicação científica estão relacionadas com a responsabilidade profissional. As palavras, na escrita e em publicações são fontes poderosas de influência e conhecimento. As técnicas de escrita científica são discutidas, assim como a responsabilidade profissional de escrever, e escrever bem, com o objetivo de disseminar conhecimento e acelerar o progresso científico no campo da enfermagem. Escrever para publicação tem também uma dimensão ética, que também é discutida. O processo de escrever, através da submissão e publicação, incluindo a revisão dupla-cega por pares é descrito em detalhes para ajudar a plateia a compreender o papel que a avaliação por pares representa na contribuição para o progresso científico e a melhoria da prática profissional. Os problemas e desafios específicos encontrados por aqueles para quem o inglês é a segunda língua e que devem escrever em inglês para submeter o seu trabalho são utilizados como um estudo de caso para esclarecer vários pontos conceituais.

DESCRITORES: Redação de artigos científicos. Publicação de artigos científicos.