

A Strategy for More Efficient Preparation of Laboratory Manuscripts



Website: www.obrizus.com
E-mail: amy@obrizus.com
Phone: 509-828-3552

***Obri*zus**
COMMUNICATIONS



EXECUTIVE SUMMARY

Most scientists would agree that publishing papers in the life sciences is increasingly difficult. This is due to a variety of reasons--from the increasing amount of data required for publication in top tier journals to the lengthy submission and review process before a manuscript is accepted. Because the amount of time required to generate sufficient data is often dependent on the skill and dedication of the researcher, in addition to a little bit of luck, there is very little that any one researcher can do to significantly decrease the amount of time it takes to get a manuscript to publication with regard to data generation. However, contracting a scientific editing firm to help streamline the revising process for lab manuscripts results in significant decreases in the amount of resources spent on any one manuscript while increasing the chances of publication.

Getting a Paper Published Takes an Enormous Amount of Time

The length of time that it takes to get a manuscript published is one of the most underestimated components of scientific research. Aside from the years of experimental work, there are at least several months of writing the paper and generating publication quality figures, followed by 2-3 months for the initial submission to a journal, 3-6 months for responding to the reviewers' comments, and another 2-3 months to receive final proofs and a specific publication date. However, this timeline neglects the possibility of rejection and having to start the process all over again at another journal. Often, the process is so long that the researcher has lost interest in the original paper because he/she is well into experiments for the next manuscript before the original results are available for public review.

Because the publication process is so much work and is so time consuming, manuscript preparation is often delayed for the following reasons:

- ◆ No specific due dates in the initial writing and submitting phases results in no motivation to stop experiments and start writing
- ◆ Principal Investigators (PIs) are too busy with their own work (teaching, writing grants, speaking engagements, papers in submission, etc.) to start developing a new manuscript

While little can be done to speed up the process of the writing of the initial manuscript, contracting a competent scientific editor to help a principal investigator manage his/her writing load, results in quicker preparation of manuscripts and increases the overall number of papers submitted and published by a laboratory.



Duties of a Scientific Editor

- ◆ Correct errors in English spelling and grammar
- ◆ Adjust voice and word choice (for ESL scientists)
- ◆ Point out gaps in the experimental logic of the paper
- ◆ Clarify or ask questions about results or conclusions that are confusing to the reader
- ◆ Suggest sections to enhance or cut to meet the length requirements for the journal
- ◆ Ensure consistent nomenclature and formatting throughout the manuscript
- ◆ Ensure that the paper meets journal length and formatting requirements
- ◆ Identify errors in figures (alignment, nomenclature, consistency)

What is a Scientific Editor?

Scientific editors are not merely responsible for correcting errors in grammar, spelling, and problems with tenses. They also have sufficient knowledge of the subject and scientific method to comment on problems with the structure or logic of the manuscript, in addition to pointing out experimental weaknesses in the story presented. Such critical input reduces the time to publication because it provides insight into what comments or concerns a journal reviewer may have about the manuscript, so that the researcher can either address them before submission or during review. This makes a good scientific editor an invaluable resource in facilitating the publication of a manuscript.

All Scientists Need a Scientific Editor

Historically, authors chose colleagues or mentors as their scientific editors because of their accessibility, familiarity with the subject matter, and because it was “free”. In reality, these are often still the editors of choice. However, in today’s fast paced and demanding world, scientists are struggling to find the time to do their own experiments, read the literature, write manuscripts, and produce publication quality figures, leaving very little time to take on the demanding job of reading someone else’s work in preparation for publication.

For non-native English speaking scientists (ESL scientists) trying to publish in journals written in English, finding local editors can be especially difficult. In the case of ESL scientists located in non-English speaking countries, native English speaking colleagues may not be available. It may also be difficult for ESL scientists to find colleagues willing to take the extra time to correct the English grammar and voice in addition to the science. For these researchers, hiring a professional scientific editor is a necessity.

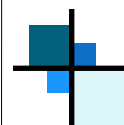


Table 1. Cost of Work for PIs at Different Salary Levels

Salary (per year)	Hourly rate*	Cost of 10hrs of Work
\$100,000	\$48	\$480
\$125,000	\$60	\$600
\$150,000	\$72	\$720
\$175,000	\$84	\$840
\$200,000	\$96	\$960
\$225,000	\$108	\$1080
\$250,000	\$120	\$1200
\$275,000	\$132	\$1320
\$300,000	\$144	\$1440

* assumes 40 hours per week, 52 weeks a year

The idea that only ESL scientists need to hire scientific editors is a misconception. To ensure the best use of time and resources, native English speaking principal investigators should also employ professional scientific editors. As shown in Table 1, a PI's time is valuable, so outsourcing more basic tasks, such as scientific editing (especially for first drafts of papers written by ESL scientists), is quite cost-effective. In fact, the Editorial Freelancers Association estimates that editorial rates often range from \$30-\$60 per hour (see www.the-efa.org/res/rates.php), so for any PI making over \$125,000 (and in some cases \$100,000) per year, outsourcing editing is justified, independent of English language ability.



Choosing a Scientific Editor

When choosing a scientific editor, PIs should look for someone with the following attributes:

- ◆ Appropriate training (Ph.D.)
- ◆ Practical experience in a similar field of research
- ◆ Great attention to detail
- ◆ Flexibility to assist in meeting deadlines with varying time frames
- ◆ Communicates effectively and responds to questions in a timely manner
- ◆ Charges a reasonable rate for services (see the Editorial Freelancers Association for estimates)
- ◆ Consistently available to assist with manuscripts (building a long term relationship with a specific editor will result in better service)

The best way to find an editor is by personal reference from a friend or colleague, but if such a reference is not available, then there are numerous listings on the Internet for providers of scientific editing services.



CASE STUDY

Dr. Jones was just approached by one of his foreign (ESL) post docs with the first draft of a new manuscript. Unfortunately, Dr. Jones has his own grant due in two weeks. Here are two approaches to the situation:

Scenario 1

Dr. Jones puts the manuscript on hold until after his grant is due. When he finally sits down to read it, the English corrections are extensive, so he spends 18 hours correcting the English grammar and voice, in addition to reorganizing the data and manuscript to his satisfaction.

PI time spent on manuscript: **18 hours**

Cost of revision (\$150,000/year salary): 18 hrs @ \$72/hr = **\$1296 total cost**

Scenario 2

Dr. Jones sends the manuscript to a professional scientific editor for revision while he finishes his grant. The editor spends 15 hours fixing the English grammar and voice, as well as making suggestions on organization. Once the manuscript is returned, the PI spends another 3 hours considering the editor's suggestions and reorganizing the paper to his satisfaction.

PI time spent on manuscript: **3 hours (83% less time spent)**

Cost of revision: 3 hours at \$72/hr = \$216
15 hours at \$40/hr = \$600 } **\$816 total cost (37% savings!)**

Conclusion

Professional scientific editors are key resources that can be employed by Principal Investigators to help streamline the process of preparing lab manuscripts for publication. Such outsourcing to qualified vendors results in PIs with more time to allocate to higher level projects and increases the overall publishing productivity of the lab.

About Obrizus Communications

Obrizus Communications was founded in 2012 to aid both native and non-native English speaking scientists in refining their written communications (grants, manuscripts, posters, and presentation slides). Our editor is a molecular biologist with a Ph.D. in Biomedical Sciences and has over 10 years of experience in academia, so she is fully qualified to provide proofreading, copy-editing, and advanced copy-editing services to clients working in the life sciences. To see how Obrizus Communications is *refining scientific discourse*, visit www.obrizus.com.

Website: www.obrizus.com
E-mail: amy@obrizus.com
Phone: 509-828-3552

