

Special Article

English editing of scientific manuscripts

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Introduction

English quality in a scientific article is as important as its science, and therefore those articles with innovative science but poor English quality have low chances of being published in an international journal [1, 2]. Journals from countries with official languages other than English are also increasing publication in this language [3-5]. This is because articles in English reach a greater number of readers, which in turn can increase the number of citations, with consequent international recognition for the journal. A scientific article in a language other than English may include a title, abstract and keywords, and sometimes tables and figure headings in English [6-8]. However, journals from these countries publishing mainly in its native language have low recognition and limited chance of international expansion [6, 8, 9].

Scientific manuscripts are reviewed by specialists with expertise similar to or higher than the authors, and in anonymity/confidentiality (blind) or otherwise [10, 11]. These reviewers comment on or suggest reviews in the manuscript to improve its quality or even reject it [12-14]. The editor(s) of the journal arbitrates between the authors and the reviewers [13, 15, 16].

The authors, even those from English-speaking countries, can benefit from professionals of this language through an editing service before submission of their manuscripts to a journal. The *Proceedings of the National Academy of Sciences of the United States of America* (PNAS) (Impact factor (IF) = 9.809 in 2013) shows on its website, a list of 45 companies working with English editing and other services (Table 1). The PNAS, founded in 1914, is a highly cited and multidisciplinary journal which publishes more than 3,800 research articles annually [17]. English editing companies on the PNAS website are mostly suggested by its editors. They did not indicate by what criteria they have picked these service vendors.

Other journals suggest specific English-editing companies, which may not be the same as those in the list of the PNAS, and many services not suggested can be used for this job. The PNAS or any other journals, however, do not have vested interests in suggesting these editing companies and their use does not guarantee acceptance of a manuscript. On the other hand, some journals may require that a manuscript be sent to a specific English-editing company before or after its acceptance for publication. *Acta Scientiarum. Agronomy* (IF = 0.631 in 2013), which publishes scientific articles on all aspects of agronomy, for example, requires that papers accepted for publication be corrected by an editing company (American Journal Experts) with authors paying the cost.

Table 1. English-editing companies in the PNAS website [17]

Name of company	Website
Albion Science Editing	https://sites.google.com/site/albionscienceediting/
American Journal Experts	https://www.aje.com/en
Asia Science Editing	http://www.asiascienceediting.com/
Bioedit	https://www.bioedit.com/
BioMedical Editing International	http://www.biomedicaediting.com/
BioMedical Editor	http://www.biomedicaeditor.com/
BioEditor	http://www.biomeditor.com/
BiomedRed	http://www.biomedred.com/index_eng.html
Bioscience Editing Solutions	http://www.bioscienceeditingsolutions.com/
BioScience Writers	http://www.biosciencewriters.com/
Blue Pencil Science	http://www.bluepencilscience.com/
Boston BioEdit	http://www.bostonbioedit.com/
Charlesworth Group Author Services	http://www.charlesworthauthorservices.com/?rcode=PNAS001
Editage	http://www.editage.com/
Edit My Paper	https://editmypaper.ca/
Emedits	http://www.emedits.com/
Enago	http://www.enago.com/
EvelynBen	http://www.evelynben.com/
Fresh Eyes Editing	http://www.fresheyesediting.com/
Global Biological Editing	http://www.globalbiologicaediting.com/
Global Edico Services	http://www.globaledico.com/
Immunology Science Editors	http://www.immunologyscienceeditors.com/
Intensive Care Communications	http://intensivecarecomm.com/index.html
International Edit	http://www.internationaledit.com/
International Science Editing	http://www.internationalscienceediting.com/
J & L Scientific Editing	http://www.jl-sciedit.com/
Journal Prep	http://www.journalprep.com/en/index.php
KOK Edit	http://www.kokedit.com/
MST Editing	http://www.mstediting.com/
N3 Science Communications	http://www.n3scicom.com/
Nextgenediting	https://www.nextgenediting.com/
OnLine English	https://www.oleng.com.au/
Oxford Editing	http://www.oxfordediting.com/
Perfect English Proofreading	http://www.perfectenglish.jp/

Table 1. (Continued)

Name of company	Website
Plant Editors Cooperative	http://planteditors.com/
Proofread My Essay	https://proofreadmyessay.co.uk/
RuffDraft Communications	http://www.ruffdraftwriting.com/
ScholarShape	http://scholarshape.com/
ScienceDocs	https://www.sciencedocs.com/
Science Editing Experts	http://www.scienceeditingexperts.com/
SciTechEdit	http://www.scitechedit.com/en-GB/?has_javascript=true
Scribendi	http://www.scribendi.com/
Sees-editing	http://www.sees-editing.co.uk/
Spi Global	http://www.prof-editing.com/
Stallard Scientific Editing	http://www.stallardediting.com/

Process of Manuscript Evaluation: An Example

In September 2014 the first author travelled to Homestead, South Florida, USA, to identify the process of manuscript evaluation of *Florida Entomologist* (IF = 1,056 in 2013), a multi-disciplinary journal published quarterly by the Florida Entomological Society. Full papers and scientific notes from all entomology-related areas are accepted for publication, but at least one author has to be a member of the Society. He met its editor, Dr. Waldemar Klassen, who was an 80-year-old Canadian residing in USA since a young age. Dr. Klassen said: “I have been a *Florida Entomologist* editor for the last five years and I have never rejected a manuscript because of English problems. I have dedicated most of my time correcting the English and suggesting changes in the science and writing, normalising them to the journal standards. In part, I have had time to do this because I am retired. I have edited one manuscript per day in the last month. Several manuscripts have interesting topics on science but poor English, even those written by authors from English-speaking countries. I have been receiving manuscripts from more than 65 countries and many of the authors, mostly Africans, do not have the financial resources to pay for a review. As I believe that science has no boundaries, I correct the English before sending the manuscript to reviewers. Unfortunately, the vast majority of journals do not have editors with this capability”. This is true not only in many African countries but also in many Asian countries. Consequently, authors in these countries tend to find native English-speaking freelance reviewers who are willing to do the editing for them at local rates [18].

Unlike the editor of *Florida Entomologist*, the editors and associate editors of the vast majority of journals are full-time academics who have limited time to deal with papers by non-native English speakers needing language assistance. The most they can do is to give a manuscript a quick scan and, if they sense that the English is poor, either send it back to the author for improvement or reject it at the initial screening stage. Allowing a manuscript written in poor English to be sent out for review only causes irritation amongst referees, many of whom simply reject it on language grounds [18].

Charge for English Review

The cost for an English review by editing companies varies with the number of words. This cost generally increases with the number of words in the text and the urgency of the author. Many companies fix the reviewing price by the number of word intervals, with a fixed price between 1,500-2,999 words, 3,000-5,999 words, and so on. Others have a lower reviewing fee for academic members than for companies or industries on the grounds that the first request more reviews. Some companies, such as Global Edico Services, have on their website a form in which the author fills in the information on the manuscript, upon which he/she immediately receives an estimate of expenses for reviewing it. The cost for reviewing the English is about US\$0.01 per word and generally increases with the depth of the review and the urgency of the author.

Apart from the number of words and word intervals, English review companies may also charge by the number of working hours, with an average of two to eight A4 pages (containing 250-300 words per page) corrected per hour per language editor, who will take more time with manuscripts with a poor English level. Language editors who are conversant with English and the native language of the authors may request both an English version and another version in their native language.

Some parts of the manuscript do not need an English review, such as authors' names and addresses, references, tables and figures, which need not be sent to the review companies. However, some companies request that tables and figures are sent, only to facilitate the language editors' understanding of the manuscript and the reviewing process without increasing the cost.

Some English editing companies charge additional fees per manuscript reviewed in general to cover bank fees and/or taxes, the amount of which varies with different companies, countries and payment methods. The conversion of currencies for payment is made in their values on the transaction day. Management fees for handling the work and/or online payment via credit card or other payment methods may be added to the cost of the review.

The most common methods of payment for English editing are via the credit cards (American Express, Diners Club, Discover, MasterCard and Visa), payment companies such as Alipay, Dwolla and PayPal, as well as checks, money orders and transfers. Discounts may be offered for indication of new customers and number of manuscripts sent for reviewing. The expense estimate for English reviewing is sent by the review company, normally 24-48 hours after the request.

Translation by 'Google Translate'

The translation by 'Google translate' (<https://translate.google.com/>) is an economic (free) tool with a reasonable quality for a first version in English. The authors should do minor adjustments in the text such as italics in scientific names, bold in numerals, quotation marks, citations, translation of proper names, and the like.

The text translation by 'Google translate' can reduce the cost of obtaining a final text in English, which is higher than a review. However, texts with low grammatical quality in the native language have, in general, a translation of correspondingly poor quality with 'Google translate'.

The quality of translation to English with 'Google translate' can be improved by the author. Thus, this tool is more useful for authors with at least a basic understanding of English since 'Google translate' also has its drawbacks. For example, even if the original manuscript is written in perfect Thai, when it is translated into English using 'Google translate', the author is still faced with

the problem of checking the accuracy of the translation since the tool tends to translate quite literally. So even though the translation may be correct word-for-word, it may sound rather strange and not really be what the author intends because some of the words have different meanings depending on the context [18]. Authors without a basic understanding of English or who do not believe in the efficiency of 'Google translate' may request a translation by review companies.

Cases of Necessity for a Second Review

Some manuscripts reviewed by an editing company may not have an English level that is satisfactory to the journal editors, necessitating a renewed language editing. The authors should request the review company for a second review, which will be free or cheaper. The manuscript should be sent to the same company that has conducted the previous review and which requires proof that the authors did not change the previous version corrected. Thus, the first version to be sent to the review company should be the one that the authors consider to be final [19]. Some companies may have a return policy of the money paid for editing in the case that the manuscript is rejected on the basis of poor language.

Text Correction Level

Some review companies may have different text correction levels such as detailed review (in-depth correction of English, adequacy of continuous and logical flow of the text, text rearrangement, extensive reformulation and/or clarification of the scientific text, and reference formatting) and minor review (general English grammar, adequacy of continuous and logical flow of the text and coherency), with a higher price for the first. The option may therefore depend on the English level of the original text in addition to the purchasing power of the author, with a choice of the review level being made by the author or company. Overall, consolidated companies do a good job even with a more superficial review.

Particulars of Language Editors

Besides the logos of the company and customer testimonials, the curriculum vitae of language editors and awards received for English reviewing are sometimes displayed on the company website. Some companies allow authors to choose the language editor based on the observation of their curriculum vitae. The editorial societies to which the editors belong as well as their scientific publications may also be displayed on the website. Some companies have language editors with PhD degrees in diverse areas, who can even suggest modifications of the scientific matter in the manuscript, but this is not very common. In addition, editors of review companies may be a student in their final year of undergraduation, a Master or a PhD professional, with varying years of experience in text editing and English scientific knowledge. Some companies may offer conversations with editors at predetermined dates, while others ensure participation of two editors per text: the first, less experienced, for general corrections and the second, more experienced, for more detailed corrections.

Correction Process

The manuscript can be submitted directly by email or on the company website system. The text is usually reviewed with corrections by Word (tracking changes, Illustration 1), a Word processor developed by Microsoft. This tool is widely used and authors can observe all the suggested corrections and accept them or not. In general, a portable document format (PDF) file

with additional comments on the ambiguous parts of the text is also sent to the authors. The PDF is a file format that can describe documents with text, tables and figures in an independent format of data carrier and resolution. The manuscript can be sent in Word, PDF or other formats, but preferably in Word.

13 female. The functional response for each of the first five days of the host supply followed a
 14 type III response curve. The ~~l~~ongevity at the five host densities (means of 13.3, 13.6, 12.4,
 15 12.1, and 10.2 days, respectively) ~~and~~ and the parasitism rate (means of 66%, 67%, 52%,
 16 63%, and 48%, respectively) showed a significant linear decrease with the host density. The
 17 offspring production (numerical response) (means of 46.3, 90.8, 90.5, 132.1, and 101.0
 18 descendants, respectively) showed an increasing quadratic variation with increased host
 19 density (P= 0.0005). The production of females by *C. flavicincta*, the offspring sex ratio
 20 (means of 0.26, 0.11, 0.13, 0.07, and 0.11, respectively), the viability of the parasitoid pupae
 21 and the percentage of mortality of *S. frugiperda* caterpillars were not affected by host density

[e2] Comentário: The use of 'respectively' requires a parallel list, e.g., "Samples A, B, and C were 100, 90, and 80%, respectively." Please omit 'respectively' or restructure the sentence to create a parallel list here and below.

Illustration 1. Example of text review. The texts reviewed are edited with controlled changes and editorial comments in the sidebars. Editors warn about obscure parts requiring attention of the authors

Submission Process and Payment

The first contact with the company should be to request an estimate of the expenses of English correction (or other services) and specify how the review must be done. The correction form should be sent in the email with the text. Another method of sending is through the company's website system, which also provides its telephone and fax numbers for contact. The response from the review company may include a request to fill out forms with the author's personal and work data. The review company will send an invoice with the value of the service. Some companies require the payment in advance while others request payment after the service has been delivered and approved by the authors. The payment requested should be made in a week, and in general the company does not make other corrections in a text from the same author if there is any delayed payment.

The company sends a receipt by email after payment and, depending on the company, a certificate is given to certify that the manuscript has been reviewed. This certificate can be sent with the manuscript to a journal when submitting and the review company can be mentioned in a cover letter.

Areas of Language Editing

Most of the companies listed previously correct manuscripts pertaining to biological and medical areas, but they also have expert editors in most areas, who edit a diversity of manuscripts such as dissertations, monographs, projects, scientific articles, theses and so on, all in confidentiality of the texts. The websites of the companies may be in more than one language to facilitate communication with authors of various nationalities. Some companies (such as Editage) send emails to authors who signed its newsletter, with informative texts that assist the authors in scientific writing and do promotion of English reviewing.

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