Journal title abbreviations should be eliminated in the digital age

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Abstract

Journal title abbreviations in articles’ lists of citations are troublesome for authors, editors, librarians, and researchers. While the origin of these abbreviations in the mid-17th century, and their propagation to modern times was likely the result of a desire to save space in articles, or as shorthand, we argue that in the digital age, such practices should be changed. We show that a journal’s choice to abbreviate journal titles in its literature cited section is purely arbitrary, and that the costs of abbreviating outweigh the benefits. Scientific journals in particular are prone to abbreviate journal titles, and this could hamper interdisciplinary research by creating an “in-group” mentality, however small.
Introduction

As long as there have been scientific journals, there have been abbreviations for their titles, the first appearing in a report by the early scientist Sir Robert Boyle in the Royal Society’s Philosophical Transactions (Boyle 1666). Over the next 100 years or so, The Philosophical Transactions was referenced by no less than 15 different abbreviations (see http://www.lib.uwaterloo.ca/society/history/abbrevproblems.html). As with all abbreviations and acronyms, journal title abbreviations likely arose as shorthand for lengthy titles, but they have long been recognized as problematic for librarians, scientists, and editors alike (Shields 1938; Smith 1977). In an era of card catalogues, complete bibliographic information needed to fit on an index card. As with many other aspects of librarianship, standards arose to attempt to ensure abbreviations were consistent and uniform (Stratton 1965; Anonymous 1971), culminating in the use of the ISO 4 standard (International Standards Organization 1997), administered by the ISSN International Centre (see http://www.issn.org/2-22661-LTWA-online.php). Although this list is available online, it is truly only helpful to the many cataloguers who work in the back-end of libraries. Scientists generally would not spend the time parsing through the list to piece together a title from its abbreviations. Furthermore, editors and authors do not necessarily follow these standards consistently. We must re-evaluate why researchers in general, and scientists in particular, continue to use journal title abbreviations in publications, and whether the benefits outweigh the costs. Now that the card catalogue has been replaced by online versions, we ask why the practice of title abbreviations continues.
There are no benefits of journal title abbreviations to the author, and there is often a cost associated with ensuring the accuracy and consistency of citations in one’s manuscript. From the perspective of journal editors, it could be argued that journal title abbreviations save much-needed space in print journals. Previous work has shown that, contrary to this notion, the number of articles requiring an additional page to accommodate full titles is less than 8% (Roberts 1969). This cost is further reduced as journals reduce printed issues in favour of online versions. The cost to editors (and reviewers) is in policing these abbreviations to maintain a high degree of consistency for their journal, or in a lack of consistency should editors leave it to authors to ensure the accuracy of journal title abbreviations.

Furthermore, by using abbreviations, an “in-group” is created, resulting in challenges for those outside the general area or in interdisciplinary work when deciphering citations. This is particularly the case when foreign-language titles are abbreviated, an increasing phenomenon as global scientific literature becomes more accessible. By reducing the availability and accessibility of information, even in this seemingly small way, scientists maintain a proprietary hold on their field, preventing access by anyone not part of the “in-group” (Gödan 1995). One could argue that those who are engaged continually in interdisciplinary or inter-language work quickly learn the abbreviations they encounter frequently, but what about a researcher who is involved infrequently with other disciplines or languages? This lack of open information may defeat serendipitous moments where information is located after browsing in a new direction.
Not all journals require title abbreviations in their articles’ citations. Our goal was therefore to ascertain what bibliographic factors, if any, influenced whether or not journals use full titles, or abbreviations.

Methods

In April 2010, we examined 177 English-language journals in ecology and zoology ranked by Eigenfactor, an index of the journal’s prestige similar to the Impact Factor (Fersht 2009). We then determined the journal’s ISO standardized abbreviation, the ratio of the length journal’s full title to the length of its abbreviation, and whether or not the journal required full titles or abbreviations in its articles’ list of citations. Finally, we used a binomial generalized linear model in SPSS 21 (IBM Inc.) to examine the relationships between whether the journal required title abbreviations, and the metrics outlined above.

Results

Neither the journal’s Eigenfactor rank, length of its own title or abbreviation, nor the ratio of title to abbreviation length had an effect on whether abbreviations or titles were used (binomial generalized linear model, all p > 0.46). We must therefore conclude that journals’ use of abbreviations is likely arbitrary, and a result of historical practice.
Discussion

The costs of abbreviating journal titles outweigh the benefits to authors, editors, librarians, and researchers, and journal title abbreviations should be eliminated. We are not the first to advocate such a position (Smith 1977). Furthermore, the continued use of title abbreviations is a result of historical trends, and is not based on any analysis of cost/benefit, either informational, or financial.

From a practical standpoint, journal abbreviation, and their accompanying mistakes, create problems using online indexing services, such as Thompson Reuters’ “Web of Knowledge” where even changes in capitalization (e.g., “PLOS ONE” vs. “Plos one”) creates two entries for the same article. When individual-level metrics, like the Hirsch Index, or h-index (Hirsch 2005) are used increasingly when evaluating and hiring research staff, duplicate entries serve to penalize researchers by diluting the entries over which citations to individual articles are spread, and therefore lower researchers’ h-index.

“Workers in all groups of organisms (or disciplines) have their own terminologies, which they use casually amongst themselves but which require some explanation for wider comprehension.” (Savile 1984: 226).

To make science more accessible to non-specialists, to increase the access to scientific literature among scientists internationally, to remove a needless, often-onerous detail from the dissemination of science by researchers, and to accurately record scientific output, we urge journals to eliminate journal title abbreviations.
References


