Best practice guidelines

WASP (Write a Scientific Paper): The use of bibliographic management software

Cuschieri Sarah[a,*], Grech Victor[b,c], Calleja Neville[d,e]

[a] Anatomy Department, University of Malta, Msida, Malta
[b] University of Malta, Msida, Malta
[c] Mater Dei Hospital, Msida, Malta
[d] Public Health Department, University of Malta, Msida, Malta
[e] Directorate for Health Information and Research, Gwardamanga, Malta

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ABSTRACT

In the scholarly environment, research findings are disseminated as journal papers which support/dispute extant knowledge or add further to what is already known. The entire manuscript needs to be cited (in-text) and referenced (at the end of article), in order for readers to ascertain the validity of the research claim/s. This must be done in proper and accepted fashion as plagiarism is a serious misdeed and inappropriate referencing mars a paper. Recent advancements in technology have led to the development of bibliographic management software tools. These tools are available as both commercial and open source software, and constitute a database wherein researchers search, store and cite references. Furthermore, authors can not only create personalized databases but also cite stored articles when compiling a manuscript or report or indeed any other form of document. This software obviates human manual inputting errors and inaccurate referencing, while conveniently enabling citation and referencing in any referencing style required, for example, after rejection, when an author must almost perforce resubmit a prepared but rejected paper to a different journal after suitable amendments.

1. Introduction

We live in a high-tech era where the agenda is to identify ways to improve and facilitate life in all aspects. It therefore comes as no surprise that software and hardware developments have greatly assisted the academic world with the creation of bibliographic management software. These tools were developed in order to ease the burden of compiling references for academic manuscripts and theses while reducing error rates.

As part of the research etiquette and writing process, quoting and utilizing any research or academic work is through referencing. Citations and referencing of a research manuscript, a book or an online reference, can be tedious. However, failure to reference other academic work is a serious offence. Universities and publishing houses alike do not take plagiarism lightly. Indeed students and staff may be suspended or expelled from a university, and an offence of this nature permanently mars an academic record. Plagiarism will lead to manuscript rejections or retractions from journals and the researcher will lose credibility.

Up to relatively recently, a scholar (student, academic, researcher), was required to manually cite (in text) and accurately reference each quoted academic work at the end of the manuscript or thesis. The manual method is prone to human error or referencing style error. This is because there are several different citations styles, with the most common being the Harvard and the Vancouver/URM reference styles. Failure to follow the required referencing style required by a university (in the case of a thesis) or journal (in case of a paper) leads to submission and publishing delays. Furthermore, before the advent of the Internet, finding missing parts of references posed significant challenges for a potential author. Yet another challenge was the process of sorting through and collating the numerous references accumulated for a particular manuscript or report [1].

Furthermore, when journals reject manuscripts, authors resubmit (after appropriate changes) to another journal. However, the prepared manuscript might not follow the same referencing style as the new journal's requirements. Manually changing in-text citations and referencing style is laborious, time consuming and error prone. This hurdle is also overcome by bibliographic management software.

* Corresponding author.
E-mail addresses: sarah.cuschieri@um.edu.mt (S. Cuschieri), victor.e.grech@gov.mt (V. Grech), neville.calleja@um.edu.mt (N. Calleja).

Table 1
Comparisons between popular reference management software tools.

	EndNote	RefWorks	Mendeley	Zotero
Payment?	Yes	Yes	Free	Free
Work offline?	Yes	Yes	Yes	Yes
Web-based?	Yes	Yes	Yes (also desktop version)	Yes (also desktop version)
Mobile device access?	No	Yes	Yes	No
Sharing of data with other bibliographic software?	Yes	Yes	Yes	Yes
Wide range of reference styles?	Yes	Yes	Yes	Yes
Search databases	PubMed Scopus Web of Science Bookmarklet	PubMed Scopus Web of Science Bookmarklet	PubMed Bookmarklet	PubMed Scopus Web of Science Bookmarklet
Developer	Thomson Reuters	ProQuest	London-based startup	Originally developed as a plugin for Firefox browser (Now runs also on Chrome and Safari)
Strengths	Around for 20 years, allows collection of references from online resources and PDFs	Allows collection and organization of a variety of web source including images and audio files.	Networking and collaborative features. Also facilities for easy management of PDF files	Easy collaboration with others while all references are stored in web-based version.

2. What is a bibliographic management software?

Bibliographic management software, also known, as 'Reference management software' is a software tool that enables scholars to keep a record of the articles read. The software enables the creation of personal database/s of selected references by either importing them online from a research database or (rarely needing to) manually inputting them in the software [1]. Furthermore, the tool can be used to automatically generate reference lists or bibliographies in various referencing styles, which can be changed almost instantaneously for a different journal style [2]. The software is also capable of retrieving reference information found in online bibliographic databases. Corresponding open access articles (to the references in question) may be automatically added to the bibliographic software database in PDF format. The software also allows the organization of the citations within the reference manager database, as well as allowing the sharing of the database with colleagues. Therefore a bibliographic management software performs three basic research steps: searching, storing and writing references [3].

Furthermore, while writing a manuscript or thesis on a word processor, most referencing management software provides in-text citation. The required scholarly citation style can be selected from a list of in-built referencing styles of the management software tool. Bibliographies can then be created automatically at the end of the text [3].

3. Selecting a bibliographic management software

There are a number of bibliographic management software tools available for use in both a commercial (e.g. EndNote, Reference Manager) and free, open source format (e.g. Mendeley, Zotero). A number of universities are subscribed to a particular referencing database manager and provide registered students and academics free access to this tool. Such universities tend to conduct periodic training for students and academics in the use of the bibliographic management software in order to create awareness and facilitate its use [1].

Bibliographic management software tools are compatible with both dominant operating systems on the market (IOS and Windows). However, not all referencing management tools work with every browser. These tools can be installed as a desktop utility for offline usage as well as an online storage, which has the facility to be accessed anytime and anywhere [1]. Table 1 lists and compares the most popular bibliographic management software tools available [3–5].

4. Conclusion

The manual inputting of citations and referencing is a cumbersome process with susceptibility to errors. The development of bibliographic management software tools has facilitated the process by enabling a relatively facile procedure of the compilation of a personalized publications database with corresponding referencing that can be utilized anytime and anywhere while constructing a research manuscript or report. This simplifies in-text citations and the formulation of a bibliography while overcoming inaccurate referencing.

Conflict of interest statement

There are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

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