

WORKSHOP ON SCIENTIFIC/SCHOLARLY WRITING

**CITATION PRACTICE
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What is 'citation'?

Article authors must carefully list (usually in a bibliography or 'list of references' at the end of the article/paper), standardised access details of the previously published articles/papers to which reference has been made, to acknowledge that this has provided a point of departure for an idea, method, experiment or argument in the text. These listed items are the citations used in the article/paper concerned. They are part of the way originality is assessed, and embed the new article/paper in 'The Literature'.

Rationale of Citation

To extend the scope of the article/paper to include the literature sources to which the author(s) has referred, amongst other reasons in order to:

- avoid duplication where a previously published item is a complete description of the matter (such as a method);
- acknowledge the source of a particular theoretical idea or concept;
- furnish additional, background information;
- substantiate an argument made;
- show how the new work builds in a novel way on the old;
or
- assist in the assembly of the argument for the conclusion(s) of the article/paper concerned.

Selection of citations

How are citations selected by authors?

The selection of citations by the huge number of authors continuously contributing to the literature in different disciplines, at different times and in different cultures, is unfortunately not performed according to universal laws.

Amongst the useful criteria are:

- **Helping readers get a better idea of background material by citing a recent, authoritative review(s);**
- **Adopting or adapting specific methods previously used by others;**
- **Placing one's new work in discussion sections as an elaboration, re-examination or contradiction of past studies.**

NB: Best is first mention/publication NB: Read all cited articles

Core issues....

- Does one ignore an earlier paper on a topic in favour of a later one, only because the latter has covered more (recent) ground?
- Which good review amongst many does one choose?
- In highly active fields, which of many relevant but similar papers does one cite?
- Is one obliged to assist non-specialist readers with many references that might be useful to them in getting to know the field of the paper?
- Does one preferentially cite papers by well-known authors (or authors at highly reputable institutions) to add 'reflected glory'?
- May one cite a slew of one's own previous papers in order to demonstrate how one has explored or 'opened up' the topic in the past (this is sometimes called 'blowing your own trumpet')?

To boil it down....

Citation practice has been pithily summed up by one reviewer who called scholarly citation practice 'a million acts of whimsy'. But, whimsy or not, and a little like democracy, it's the best thing we've got, and most authors, peer reviewers and editors do understand its importance sufficiently to ensure that the great majority of articles in the literature are in fact adequately and appropriately referenced. Inexperienced authors soon 'get the hang' of citing/referencing, and learn to prune unacceptably long lists of available sources.

Questions...

- **How are citations/references placed in the course of an article/paper?**
- **What information must a citation (reference) contain?**

Quality assurance in the 'literature'

Quality assurance in the literature takes effect at two levels:

- The first is the application of best practice in editorial discretion and peer review when new articles/papers are submitted to a journal; this necessarily limited and confidential assessment leads to acceptance or rejection decisions, improvements mandated by peer reviewers and/or editors, and copy editing to publication standard. This is also the stage when the novelty or otherwise of the new work is assessed, for which careful scrutiny of the citation/reference list is crucial.
- The second level of quality assessment takes place after publication, namely “universal peer review in the public domain”, through cumulative citation in other published articles in the literature, especially by authors completely independent of the original authors or groups (i.e. not self-citation).

Citation indexing and analysis - I

Citation indexing, introduced by Eugene Garfield in 1955, was based on his development of the journal indexing service provided by the 'Institute of Scientific Information' (ISI) in Philadelphia, USA, purposely restricted to sets of so-called core journals in three major groups of disciplines, selected according to the Bradford principle which assumes that 80% of the value in a system is provided by 20% of the participants.

Citation indexing and analysis - II

Because the ISI indexing service included the capture of all the citations/reference lists of all articles/papers in the selected core journals, Garfield recognized that a potentially very useful form of meta-analysis of the 'core literature' (the 20% of journals ISI adjudged to be most useful) might be developed out of the database of citations, particularly the measurement of the impact exerted by any individual article/paper on the particular system over time (e.g. its individual 'citation rate' in all articles in journals in the ISI indexes in a given period following publication). From this it was possible to aggregate the information to deriving the overall impact on the system of individual journals, i.e. the average citation rate of all articles published in them in a given period, their 'impact factor'. Extensions of the analysis permitted many other characteristics of articles/papers and journals to be derived, of which the temporal pattern of citations ('half-lives'), and field- or journal-based normalization of citation rates are the most significant.

Where has citation analysis progressed up to the present?

- **Indicator 1**: Total publication output (numbers of articles/papers) in the whole indexed system, or only in a specified field.
- **Indicator 2**: (Article/paper) Citation count
- **Indicator 3**: (Article/paper) Citation rate
- **Indicator 4**: (Journal) impact factor (IF)
- **Indicators 5** Field-normalised (article/paper) citation rate

Overall conclusion

Good citation practice is obviously a key ingredient of an article/paper. It is important not only for the paper's quality and usefulness to other readers as such, but helps materially to create the connectedness of 'The Literature' as a whole, while providing the basis for much of the modern science of bibliometry, which concerns itself with the measurement of the metaphenomena of science and scholarship such as impact assessment. .