

## *Continuing Education Article* **Quoting References in the Text of Scientific Publications<sup>1</sup>**

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<sup>1</sup>This paper has not been formatted according to the format of *International Journal of Agriculture and Biology* and reflects views of the author only

### **ABSTRACT**

Several methods of citations exist in the scientific literature. They are based on the Vancouver and Harvard systems. This article describes advantages and disadvantages of both the systems. It suggests adoption of a standard method in Pakistan for uniformity in the format. Examples are quoted to illustrate citations of different types.

**Key Words:** Citations; References; Vancouver system; Harvard system

### **INTRODUCTION**

During the past almost 4 decades of association with teaching, research, and editing scientific journals, the author has come across different styles of writing references. Each journal adopts a specific style and quite often the manuscripts submitted are returned with the remarks "follow the journal guidelines". Once the manuscript has been submitted in the format of the specific journal, only then it is sent to referees for vetting. This process wastes a lot of time of the scientists.

In the western world where thousands of papers are published each month, the format of references was not standardized for quite a long time (O'Connor 1978). Considering the need for harmonization, numerous organizations have come up with style guide manuals for scientific publications. Among these are the Scientific Style and Format (CBE 1994), the Chicago Manual of Style (UCP 1993), Prentice Hall Style Manual (De Vries 1992), National Library of Medicine Recommended Formats for Bibliographic Citations (NML 1991) and others. The Council of Biological Editors, established in 1957, has considered various formats and has suggested for uniformity in all scientific disciplines. It recommends on how scientific papers, journals and books should be styled and formatted for publication (CBE 1994). This format, or its slight modifications, is currently being followed by most journals in the world.

Presently, there seems to be little harmonization in citing references in the text in Pakistan. The formats vary from institution to institution and journal to journal. In probably most institutions in Pakistan there is hardly any course to guide the science students on how to write class assignment, synopsis, thesis and research paper. The teachers or supervisors merely 'order' the students to do a specific job and submit. It has been observed that quite often the supervisors themselves are not aware of the style and format that should be followed in a technical presentation.

A Manual of Thesis Writing was prepared by Khan (1968) at the inception of the University of Agriculture Faisalabad. This manual, over 3 decades old, is now most likely lying in the archives of the university or with some very senior professors. Hashmi (1988) published a style manual of technical writing in collaboration with the Ministry of Food, Agriculture, and Cooperatives, Government of Pakistan. This publication is probably not available now. College of Physicians and Surgeons Pakistan has provided instructions for writing dissertation for the FCPS candidates (Samad and Ali 1996). This publication has a restricted circulation. Very recently Khan (2002) pointed out mistakes often made in preparing Synopsis and has suggested guidelines for writing Synopsis in animal sciences which is a step forward in assisting the teachers, students and researchers. In a similar effort, Awan (2002) has suggested for uniformity in quoting references in the reference list or bibliography.

The format and information that the references carry should be complete, and economical of space, time, labour, and cost in typesetting. It has been recommended that punctuations not needed for functional reasons should be eliminated (CBE 1994). Standardized format for citing references is also required in Pakistan. This will facilitate the technical professionals to get their works published in less time. This paper is in continuation to the earlier work (Awan 2002) and provides guidelines on how to cite references in the text in scientific publications.

**Significance of citations.** For scientific works such as synopsis, journal articles, theses, reports or others, the literature actually used is cited within the document (citation) and also at the end as "references" or "references cited". Citing such publications is not an exercise designed to strain the patience of writers. When work done by other scientists is used, cited or quoted, it becomes mandatory to acknowledge the author. This is to give credit to whom it is due. The original author is accredited so that he is honored for doing the work.

Further, the authenticity of the statements or the data quoted lie solely on that author and not on the person preparing the manuscript.

The references are quoted at two places in a scientific publication: these are inserted in the text to provide the reader of the source from which the information has been obtained and at the end of the document to give full information for possible retrieval. Citations and reference lists are locators for material used and should be precise and good road directions. The form of citation is used for uniformity and is a valuable tool for communication.

**Formats of quoting references.** There are basically two formats in which the references are quoted:

1. Vancouver or Citation-sequence system (C-S System)
2. Harvard or Name-year system (N-Y System)

**Vancouver or citation-year system.** In this system, citations in the text are numbered. The number is placed as a superscript (underlined in some formats) after each quotation, paraphrase or mention. The numbering is done in the sequence in which the references first appear in the text (UCP, 1993). Subsequent citations of the same document use the same number as that of its initial citation. For example:

- Wheat is the staple food in Pakistan<sup>1,2</sup> while rice and maize are other cereals consumed by the people<sup>3,4</sup>. Several wheat varieties are cultivated in various parts of Pakistan<sup>5-8</sup>. Research workers in various parts of the country have analysed different wheat varieties for their nutrient content<sup>6,9-15</sup>. .....

Citation numbers not in a numeric sequence are separated by commas with no spaces. Those in sequence are separated by a simple dash. For example:

- Numerous growth factors<sup>4,7,10,14-18</sup> are responsible . . .

In some format styles, complete details of the references are placed at the bottom of the page as “footnote” or at the end of the document (paper or book chapter) as “endnotes” or “references”. When at the end of the document (synopsis, thesis, manuscript, article, chapter), these references are listed in the order in which they have appeared in the text without considering the alphabetic order of the author’s names or the year of publication.

**Advantages.** The major advantage of the C-S system is that citation numbers minimally interrupt the reading of text. This advantage is obvious when continuous and long sequences of citations such as in review articles are represented by the first and the last number of a sequence. Using numbers as citations also saves space, paper and publishing cost.

**Disadvantages.** There are, however, three major disadvantages of using this system:

- a. Readers need to turn to the reference list to find out exactly whose work is being cited.
- b. The visibility of the author names is low when they appear only in the references and not in the citations in the text.

c. When any reference is added or deleted at a later stage in revising, the whole numbering has to be changed that sometimes becomes cumbersome.

The C-S system is adopted by a number of journals and institutions. The College of Physicians and Surgeons, Pakistan requires that the references in the thesis submitted for FCPS are written in this format (Samad and Ali 1996). Similarly, medical journals in Pakistan adopt this system.

**Harvard or name-year system.** In the Harvard or ‘name-year’ system of citing references, the name(s) of the author(s) and the year of publication are recorded in the text. The name may appear at the beginning where the statement is started with the year in parenthesis or in parenthesis if at the end of some information. For example:

- Muhammad and others (1997) enumerated several factors that lead to occurrence of antibiotic residues in animal products.
- Real costs of Indian and Indonesian new irrigation more than doubled from 1970 to 1990 (Rosengrant and Svendsen 1993); and in Pakistan they more than doubled between 1980 and 1990 (Dinar and Subramanian 1997).

There are two major disadvantages of using this system. In review articles or where several authors have to be referred, the list in the text becomes too long. It often irritates the reader. Similar interruptions occur when long names such as of organizations are used. Moreover, the rules for sequence of citations, punctuation within citations, and alphabetization of reference lists are more complex than the rules for citing by number and ordering references by sequence of first citation

There are, however, several advantages of using this system over the C-S system. Adding or removing references from the list does not require renumbering as in the citation-sequence system. The document being referred can be easily identified. The citation of year in the text conveys some historical perspective on the development of concepts and methods being discussed. Further, the authors are likely to be more pleased with this system since their names appear at two points.

Followings are a few examples how references should be cited in the text using this system.

**Single author.** When there is only one author of a publication, his name is cited followed by the year of publication. If more works of the same author are consulted and referred then the name is written once only followed by the years of publication, in chronological order, separated by a coma. The use of comma (,) after author’s name separating it from the year of publication has been discontinued.

- The recorded dietary laws were initially brought to mankind by Moses (Awan 1990).
- Awan’s work on Islamic Food Laws (Awan 1988, 1989, 1992) . . . . .

- When Rehman's sequence of studies on rheological properties (1985, 1993a, 1993b, 1997) is .....

In case the work pertains to same year then alphabets are added to the year. The sequence is always determined by the publication date:

- Studies on food poisoning by Butt (1999a, 1999b)
- Studies on food poisoning conducted in this laboratory (Butt 1999a, 1999b) reveal that .....

When works of different single authors are to be referred, these may be cited in alphabetical order or in chronological order according to the oldest reference first and the most recent last: This later system, citing according to chronological order, appeals more since in this system the scientist who has pioneered the work is cited first and those who followed are cited after him. For example:

- Work conducted by different authors on the use of composite flours (Rahman 1989; Khan 1991; Mahmood 1991; Ahmed 1995, 1996; Ismail 1998; Murad 2000; Yasmin 2001) .....

When the author of a publication is unknown (Anonymous), it is placed in the text and not at the beginning. There is a general trend, especially among students, to use Anonymous as the surname of an author as: Anonymous (2002) reported that drinking water in all cities in Pakistan is unfit.

This approach is incorrect and need to be discouraged. Anonymous cannot be used as a surname. The correct form of citation would be:

- Drinking water in all cities in Pakistan is unfit (Anonymous 2002).

Similarly, when organizations are authors, these should be cited as follows:

- The world population has increased five fold in the past few decades (FAO 2000).

**Authors with identical surnames.** When the work of single authors having same surname but different initials and the same publication year is to be referred in the text, then the initials of each author follow the surname:

- The most recent work (Hussain A 1996; Hussain M 1996) .....

In case the year of publication is different, then only the surname of authors followed by the year will suffice:

- Laboratory Manuals recently published (Rehman, 2002; Rehman 2003) .....

**Two authors.** When there are two authors in a publication, then their surnames are written in the text followed by the year:

- The Food Analysis Manual published recently by Awan and Rehman (2003) provides .....
- Work conducted by Chughtai and Moazam (2002) has shown that .....

If the two authors have same surname but different initials in the same publication, CBE (1994) recommends that the initials of both of them be inserted after the surname as:

Most recent work done in this laboratory (Randhawa MA and Randhawa ZI 2001) . . . .

Considering the principle of economy, citation without the initials is more appealing since complete details are provided in the list of references. It is therefore recommended that the above citation or those of the same nature be cited as follows:

- Most recent work done in this laboratory (Randhawa and Randhawa 2001) .....

**Three or more authors.** When there are three or more authors in a publication, the trend has been to use the surname of the first author followed by *et al.* (abbreviation of Latin word *et alii*, meaning 'and others'). It has been recommended that this (and other similar Latin words) be changed to their English equivalents (CBE 1994). For example:

- In recent studies (Gill and others 1990) .....

If the first author name and the year are identical in several references, enough author names are added to eliminate ambiguity:

- Recent work reported (Gill, Malik, and others 1990) . .
- Recent work reported (Gill, Malik, Akhter, and others 1990) .....

**Multiple citations at one point.** When two or more documents with different authors are cited within parenthetical citation, they should appear in chronological sequence from earliest to the latest. Those published in the same year should be sequenced alphabetically by author name(s):

- and the main contributors (Chaudhry and Mian 1984; Chaudhry and Naz 1984; Zaidi AH 1988; Zaidi MY 1988; Tahir and others 1990; Hussain and Zafar 1992; Zahid 1997; Ahmed 1998; Randhawa 2000) .....

Note that the citations are in chronological order according to alphabetical order in a particular year and each is separated by a semi-colon (;).

**Reference cited from another source.** In most developing countries including Pakistan, scientific journals, especially most recent, are usually not available. Students and researchers often rely on abstracts from abstracting services for references that are cited with the author's names as if the original article had been seen. However, in the references list, after providing complete reference, details from the abstracting service must be provided.

In other cases, references listed in a publication are cited as if these have been seen in original. It is unethical not to mention the original source from which the reference has been retrieved. The appropriate method of citing references from a published paper is as follows:

- The original description (Powell 1858, cited in Forbes 1998) was a . . . .

• OR The original description (Powell 1858) was a . . . .  
Then in the list of references after writing complete reference for Powell, information about the source (Forbes

1998) should be provided. Complete details of Forbes should be given in the appropriate place in references.

#### USE OF PUNCTUATIONS IN CITATIONS

**Comma.** The use of comma (,) to separate author's name and year has been discontinued for economy of space and time. Comma followed by space is used to separate citations of different references by the same author or authors represented by the same year reference

- The work done in this laboratory (Anjum 1996, 1999)
- The work done by Anjum (1995, 1996, 1998).

It also separates author's names in citations with more than two authors:

- . . . has been defined (Gilani, Sarwar and others 1990)

**Semicolon.** A semicolon (;) is used for separating citations of references by different authors

- The additional work (Cheema 1998; Malik 1999; Iqbal 2001) or
- The preference of this method over others (Ranjha 1991, 1997; Qureshi 1998; Rana 1999)

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