

# RESEARCH



WHAT, WHY AND HOW?

*A Treatise from Researchers to Researchers*



PM Kasi

# **RESEARCH: What, Why and How?**

**A Treatise from Researchers to Researchers**

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## **CITING/REFERENCING**

## What is the difference between a Reference and a Citation?

*Farhad Shokraneh, Ali Hyder Zaidi*

*"As long as one keeps searching, the answers come."*

***Joan Baez***

As rightly pointed out earlier, research ethics advises authors to avoid plagiarism. **Citing** the used references in scientific works is the best way of preventing plagiarism. There are some guidelines on the internet that helps authors to observe ethical writing tips. We cite others' works in many different ways. Firstly, we should know that what is the difference between a reference and citation and why we cite.

### **Citation:**

According to Cornell University's College of Arts and Sciences website, "a *citation* occurs when you use a specific source in your work and then follow up with the proper bibliographic information; plagiarism issues arise when you use a specific source, but **fail to indicate what you have borrowed, and/or fail to provide proper bibliographic information.**"<sup>8</sup>

### **A Reference:**

"A *reference* is the bibliographic information that guides readers to your source."<sup>8</sup>

Thus stated simply:

- "References occur in the reference list
- Citations of those references occur in the body of the text.

**References** provide the information necessary to retrieve published, or in some cases, unpublished, sources of data, research, and other material used by the author. References occur in the "reference list", the final section of a paper written in APA style.

In the body of a paper, the author indicates which references were used to support the statements being made. These indications are called **citations**.”<sup>9</sup>

Most of the times, authors borrow information from references in their writings. In this way, they write the list of references they cite at the end of their works. In some cases the references are written down in footnotes. References appear at the end of writings in titles like references, bibliography, cited works or notes. Referencing a work means that we borrowed some part of others' works in our work. If we don't highlight the part we borrowed, we are plagiarizing. So we must cite the parts in context and within the text.

Sciences grow by using the past scientists' experiences. Isaac Newton's famous quotation that now is the motto of Google Scholar:

*“If I have seen a little further it is by standing on the shoulders of Giants.”*

**Isaac Newton.**

is an evidence that shows the importance of citations and collaborative entity of sciences which makes-up citation networks studied in Scientometrics. Study on citations is a part of Scientometrics.

## Why We Cite?

There are many rational reasons for citations. Garfield has listed 15 major reasons for citation: <sup>6</sup>

1. *Paying homage to pioneers.*
2. *Giving credit for related works (homage to pioneers).*
3. *Identifying methodology, equipments, etc.*
4. *Providing background readings.*
5. *Correcting one's own work.*
6. *Correcting the work of others.*
7. *Criticizing previous work.*
8. *Substantiating claims.*
9. *Alerting researcher to forthcoming work.*
10. *Providing leads to poorly disseminated, poorly indexed, or uncited work.*
11. *Authenticating data and classes of fact- physical constants, etc.*
12. *Identifying original publications in which an idea or concept was discussed.*
13. *Identifying the original publications describing an eponymic concept or term as, e.g., Hodgkin's disease, Pareto's Law, Friedel-Crafts Reaction, etc.*
14. *Disclaiming work or ideas of others (negative claims).*
15. *Disputing priority claims of others (negative homage).*

**Do we need the permission of author to cite their Works?**

According to fair use statement, there is no need for permission if you cite some parts of the work, e.g., up to 100 words. However in especial cases you need a formal permission of the author or the publisher. The three major situations include:

1. Copying a table or chart or picture
2. Using major parts of a paper, e.g., more that two paragraphs
3. Translating whole or major parts of a the work

### **What are the different types of borrowing?**

We could use any of following types to borrow a part of others' works. After every borrowed paragraph, you must insert the number of reference or author's name and the year or page number within the parentheses at the end of paragraph. How you cite depends on the *Citation Style* you choose or the journal's instructions for authors. Full bibliographic information of references appears in the references list at the end of your paper.

#### **1. Direct citation**

When you have access to the reference, you can cite it directly in the following ways:

##### ***I. Paraphrasing***

In this type of citation you study the article sentence by sentence, change some words and then write your paragraph. The number of your sentences is equal with the original paragraph's sentences but your wording was changed. Notice that the changing the words should not change the meaning.



## ***II. Summarizing***

For summarizing you should read the paragraph from the reference and then write it again in fewer words and perhaps fewer sentences. Consider that your summary must not delete an important part or change the meaning of original resource.

## ***III. Interpreting***

After reading the original paragraph, you can write your own interpretation in your own words. You should be sure that your interpretation is true and has no conflict with original paragraph. This type is better than I and II because you can adopt the words and structure of paragraphs from different resources and write them in your own words and keep your writing style in the same way. In this way, you use your own mind to interpret and this makes you writing valuable.

## **IV. Quoting**

In some cases if we want to use a famous quotation or if we don't want to change the wording or content of sentence or phrase in an article, then quoting is the suggested type for borrowing here. For example, Newton's quotation mentioned above. To highlight this quotation you need to indent the quotation and insert it between quotation marks. Some authors use italic form too.

### **2. Non-direct citation**

When you have no access to the original work, you should use "quoted in", "stated in" or "wrote in" method. For example, if you are reading paper A, you find good ideas that are cited in that paper from paper B, so you look at the references list at the end of paper to note bibliographic information of paper B and try to find that particular source/article. If your search is futile and you cannot find paper B by searching the libraries

and internet, then firstly, try sending an email to the author of paper B.

Suppose all these methods to find the article fail and you could not find B. In this case you have the beneficial information from B. Also you have the bibliographic information of B which was written in A. We, however, cannot cite the work we have not seen up to now. There is information from B about which we don't know if it is true or does article B really contains the cited information. So we cite A instead in the following way, e.g.:

*“Pashtoon Kasi (2009) quotes in Shokraneh, lists avoiding plagiarism as one of the essential ethical issues in scientific writing.”*

In this italic sentence, you have Pashtoon's Paper (Paper A). Pashtoon has cited Shokraneh's Work. You want to cite Shokraneh's Work but you have no access to his work so you cite Pashtoon's work and list his work at the end of your work. You should not list Shokraneh's work as one of your references because you have never seen his work. Furthermore you are not responsible for Shokraneh's statements because indirectly you announced that Pashtoon is responsible.

Hope this clarifies some of the issues in borrowing.

## **What are the different International Referencing Styles?**

### **International Reference Writing Styles**

When citing within the text and writing references lists, we need to follow a Citation Style. Most of journals have their own styles and write their styles in "Instructions for Authors" section in the journal or the webpage of journal. But there are some famous and most-used international styles which are used more than other styles. All of these styles have at least 2 similar characteristics:

#### ***1. Standardizing***

These styles seek to define a standard for citing and reference writing for scientific writings. They use punctuation marks to determine the fields like authors, title, year, etc. using these marks make the discriminating of fields possible for all of authors from any country and language, e.g. in Vancouver style we write the authors name at first then inserting a dot we can write the title. Titles in Vancouver Style are between two dots. Every author could understand that the words between two dots are belonging to the title even if the reference was written in Chinese or Persian.

At the same time, these punctuations and syntax make importing and exporting of the bibliographic information easy for softwares like library softwares or Bibliographic Information Management Softwares like Reference Manager™ or EndNote™. Programmers could define fields' discrimination rules by punctuation.

#### ***2. Abbreviating***

Abbreviating helps benefit the authors, researchers and publishers in several ways:

- Writing, publishing, storing and retrieving the bibliographic information needs money and is a time-consuming process. So the styles have tried to use abbreviating rules. Writing more letters waste the time of authors. So abbreviating saves their time.
- Less letters also leads to less words and surely less lines and pages for the publisher, hence reducing the cost and time of publishing.
- Since, all this information needs to be stored in an electronic format in hard disks of computers, less letters lead to fewer numbers of bytes and less volume load on hard disks. So databases could store more information in a smaller volume. This thus saves volume as well as money of databases owners as well.
- Finally retrieving more letters takes more time of users and abbreviated information can thus help the databases and computers to do their job and processes quickly.

As Medical Sciences grew fast and more journals emerged, the Vancouver style was designed and adopted in medical sciences to create uniformity. In Vancouver style we abbreviate the first name of authors, name of journals (in NLM Standard), and page numbers and so on.

Every reference in the references list contains the necessary bibliographic information that can help the readers to find and access the reference. This information also distinguishes the reference from other similar resources and makes it unique; e.g. the word *Ophthalmology* is a common word in the title of several books and we can distinguish the book we are citing by writing the names of the authors, publisher, publisher's city and the year.

Although there are some famous styles in the world, but almost every journal modified them a little to suit their own needs and so hundreds of different citing styles emerged;

making the life of an author very difficult. This led the ISI to produce bibliographic information management softwares, which have made the job of citing/referencing a lot easier.

Following is a brief description of the commonly used referencing and citing styles. We have taken only the example of how to cite a journal article based on these different styles and how to cite them in-text. Other useful information could be found on the internet especially on the Monash University Library Website and the Online Writing Lab of Purdue University.

## **I. APA Style**

This is one of the most commonly used styles in the scientific community and is also recommended by the American Psychological Association. In the social and behavioral sciences resources you can usually see the use of this style. (7) Below is an example how to cite a journal article in-text as well as in references in APA style.

### **\* *In-Text Citation***

This style's in-text citations are based on two elements: author and year. References list of paper could be sorted alphabetically by authors' name. All lines after the first line of every reference should have indentation. Readers can see the name of author in the text and can then refer to references list. Sorting references alphabetically in the references list helps readers to find the related reference easily by the author's name. In cases where we cite more than one reference from a unique author, readers can then look at the year of publication. And in cases If we cite more than one work of a particular author that are published in the same year, then we put a, b ... after stating the year of publication, e.g.:

- *Kasi (2007) writes that doctors working for longer working hours were more likely to be stressed*

- *Doctors working for longer working hours were ... (Kasi, 2007).*

- *We need to reduce working hours by ... (Kasi, 2007a)*

**\* Journal's Article**

Kasi, P. M., Khawar, T., Khan, F. H., Kiani, J. G., Khan, U. Z., Khan, H. M., et al. (2007). Studying the association between postgraduate trainees' work hours, stress and the use of maladaptive coping strategies. *J Ayub Med Coll Abbottabad*, 19(3), 37-41.

## II. Chicago Style

This style was one of the first writing styles and was suggested by Chicago University Press. This style's features have been utilized by other writing styles. It also contains pagination, capitalization, punctuation, etc. rules. Some times it is called 'Turabian Style', which summarized Chicago style with emphasis on citation-related information. Chicago style is mostly used in books and publishing companies so there are notes and bibliography in this style. We mentioned notes here but you should know that in bibliography, references are sorted by authors' last name when in notes the first name and last name appears in normal state without inversion. There is another difference between notes and bibliography. Bibliographies have no number at the first of bibliographic information because they were sorted by authors' last name but in notes we use numbers as you will see below.

**\* In-text Citation**

In-text citation in this style could be written by page number (like MLA style) or by year of publication (like APA style) between parentheses.

-*Working hours of postgraduate trainees need to be reduced ... (Kasi 2007, 37)*

**\* Journal's Article**

Kasi, P. M., T. Khawar, F. H. Khan, J. G. Kiani, U. Z. Khan, H. M. Khan, U. B. Khuwaja, and M. Rahim. "Studying the Association between Postgraduate Trainees' Work Hours, Stress and the Use of Maladaptive Coping Strategies." *J Ayub Med Coll Abbottabad* 19, no. 3 (2007): 37-41.

### III. Harvard Style

This system uses bibliography or references list as mentioned in Chicago style. In references list, we should use numbers but in bibliographies, we sort references list alphabetically by authors' last name as we used them within the text.

#### \* *In-text Citation*

This feature is similar to other styles but more precise. Author's name, year of publication and cited page number appears between parentheses within the text.

- *According to these findings ... (Kasi et al., 2007: 37)*

#### \* *Journal's Article*

KASI, P. M., KHAWAR, T., KHAN, F. H., KIANI, J. G., KHAN, U. Z., KHAN, H. M., KHUWAJA, U. B. & RAHIM, M. (2007) **Studying the association between postgraduate trainees' work hours, stress and the use of maladaptive coping strategies.** *J Ayub Med Coll Abbottabad*, 19, 37-41.

### IV. MLA Style

Modern Language Association (MLA) style is similar to above mentioned styles but commonly used for humanity sciences works.

#### \* *In-text Citation*

Author's name and page number are written between two parentheses. In cases that you used author's name in the text, writing the page number in parentheses is enough.

- (Kasi et al. 37)

- Kasi et al mentioned that... (37)

**\* *Journal's Article***

Kasi, P. M., et al. "Studying the Association between Postgraduate Trainees' Work Hours, Stress and the Use of Maladaptive Coping Strategies." J Ayub Med Coll Abbottabad 19.3 (2007): 37-41.

**V. Vancouver Style**

Vancouver style is unique and more different. It uses abbreviating methods more than other styles. Also in-text citations are more different and economical for publishers. International Committee on Medical Journal Editors (ICMJE) tried to define an adaptive style for medical journals and it seems that this style is ubiquitous in medical societies.

**\* *In-text Citation***

This style uses sequential numbers between parentheses or brackets or superscripted in the text. The references list is sorted by the numbers and ordered sequentially regarding the text and not alphabetically.

- *Talati et al find that ... (1) these finding are similar to Kasi et al. (2)*

- *Talati et al find that ... [1] these findings are similar to Kasi's. [3]*

- *Talati et al find that ... <sup>1</sup> these findings are similar to Kasi's.<sup>2</sup>*



**\* *Journal's Article***

1. Talati JJ, Syed NA. Surgical training programs in Pakistan. *World J Surg.* 2008 Oct;32(10):2156-61.
2. Kasi PM, Khawar T, Khan FH, Kiani JG, Khan UZ, Khan HM, et al. Studying the association between postgraduate trainees' work hours, stress and the use of maladaptive coping strategies. *J Ayub Med Coll Abbottabad.* 2007 Jul-Sep;19(3):37-41.

## **What is the difference between a Bibliography and a Reference?**

The references list includes bibliographic information of all of resources you used in the writing and cited them. Every reference in you references list should be cited at least one time within the text. In a bibliography you mention all of works you consult in your scientific writing even if you don't use them as a reference. Some bibliographies encompass related works so as to guide readers to related and useful readings. Most of journals use references lists instead of a bibliography. As you read above, in Chicago style that mostly used in books, we see notes and bibliographies.

## **What are Bibliographic Information Management Softwares?**

Although the international reference writing styles have suggested standard ways on how to cite and reference but each journal has still has her own referencing style. These can be found in the "instructions for authors" section of journals' websites. Now, there are hundreds of reference writing types used in these different journals. Although you can follow the journal's referencing style and type the reference based on the syntax yourself, however, in two situations you would need to use softwares to do your work more quickly.

First situation is when the number of your references is more than usual for example in review papers. Bibliographic management softwares can make keeping record of your references a lot easier.

Second situation often arises when your paper gets rejected when you sent it to a particular journal and now you want to send it to another journal. References writing style of the second journal may be different from first one and if that is the case, then you have to change all of references and perhaps

in-text citations. Changing them manually can be a very time consuming and daunting task.

Here, bibliographic Information Management Softwares help the authors in retrieving, storing, setting up, citing and changing the references. Most of databases and journals have designed a compatible file for their referencing style, which can easily be imported into these Softwares. Using these softwares you can cite when you write. Also you can change referencing styles easily. Furthermore, by storing the references in a file you will have a library of references that contains thousands of ready-to-cite references.

Most used and well-known bibliographic information management softwares are *Reference Manager<sup>TM</sup>* and *EndNote<sup>TM</sup>* both produced by ISI (Institute for Scientific Information).

EndNote is a software available to manage bibliographies. It has powerful searching abilities and the different referencing styles are already fed in. It also allows you to search across different databases around and you easily find your article of interest. After you have made your articles bibliographical list, the referencing styles can easily be changed suiting the journal where you want to send your article to, saving you precious time. The software is compatible with the different operating systems and also gives you many other powerful tools and features which can be integrated with different other softwares you use, such as Microsoft Word.

**Table 16: Sofwares for Managing and Publishing Bibliographies**

EndNote: Bibliographies made easy	<a href="http://www.endnote.com/">http://www.endnote.com/</a>
Reference Manager: Bibliographies made easy on the Desktop and Web	<a href="http://www.refman.com/">http://www.refman.com/</a>
ProCite: Your information toolbox	<a href="http://www.procite.com/">http://www.procite.com/</a>
RefViz: Explore Research Literature Visually	<a href="http://www.refviz.com/">http://www.refviz.com/</a>
Citation: Bibliography and Research Note Software	<a href="http://www.citationonline.net/9-home.asp">http://www.citationonline.net/9-home.asp</a>
StyleEase Bibliography and Citation Software	<a href="http://www.styleease.com/">http://www.styleease.com/</a>
Sonny Software: Reference Management and Bibliography Software	<a href="http://www.sonnysoftware.com/">http://www.sonnysoftware.com/</a>

**Why have different Styles of referencing? Could a classification be suggested?**

Perhaps organizations like ISO could define a standard in reference writing to be applicable all over the world. In that case, however, the entity of different sciences will be ignored.

You know that sciences include the laws, theories and hypotheses. Proportions of these three scientific statements

are not same in all sciences. Mathematics, physics and chemistry have many laws. The number of theories in psychology, psychiatry, management, economy is more than the laws. On the other hand medical sciences are based on hypotheses and testing of these hypotheses.

It seems that the number of hypotheses is more than the theories and the number of theories is more than laws. Based on this we can classify the sciences into three classes. This classification is just a suggestion and based on author's experiments.

In *law-based sciences*, most of the laws are famous and perhaps we do not need to cite them. Gay-Lussac's Law in chemistry and Newton's three laws of motion in physics are famous enough and don't need to be cited. Also most of laws are known beside the names of scientists who found these laws and these can be counted as in-text citations which have no references because the laws are stable enough. You know that apparent statements don't need to be cited. But if you are doubtful about them, you must cite.

In *theory-based sciences*, number of theories and surely theoreticians are more and the theories then may change into laws. So these sciences need citations and references. As the readers of theory-base sciences want to know the theoretician of the stated sentence, we need to cite their names between two parentheses beside year or page number. If we use only a number in references instead of authors' names, reader, the person who is studying the text, has to leave the text and turnover the pages to find references at the end of writing to know the name of theoretician.

Hypothesis-based sciences have many hypotheses that are suggested, tested, accepted or rejected. Every scientist can test many hypotheses during his/her lifetime. So the authors of hypotheses are not as famous like law-based sciences; and also readers have little tendency to leave the text to find reference at references list. Observing copyrights laws, we have to cite the works and write the references too. In these hypotheses-based sciences we try to don't trouble the reader much by

inserting many parentheses and authors' names within the texts. At the same time, we also help publishers by summarizing citation in numbers and references by abbreviating them. This summarization in hypothesis-based sciences is rational because the number of hypotheses is more than theories and laws so the number of papers and also journals in these sciences are more than other sciences. So the special citation style is a great help for authors and publishers to save their money and time. Vancouver style in medical sciences is the best example for citation style in hypotheses-based sciences.

As I mentioned above, this classification is not scientific. We tried to use this classification to make the discussion understandable for readers. We know that every science have some laws, some theories and some hypothesis and so this classification may not be applicable to all settings.

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