

Citation analysis for determining the influence of a published research article

Things to look for among the citing articles. Some research might be done directly as a consequence of the original article. Chargaff claimed that he analyzed base compositions because of Avery's paper. Some research might continue the original work. Some might challenge conclusions of the original work, and serve as a correction. Or the challenge might be incorrect, and cause a period of confusion. The original paper might serve as a model for a different research area, such as Avery's work did for Stanley Prusiner in his analysis of prions. These are the kinds of influence that we will look for.

You should identify 2 or 3 citations to the original research paper, and learn a little about them. Send the references to me in a list before the class. You may also read other material that provides similar information from interviews or biographical accounts. Come prepared to tell the class what you found.

1. Perform a PubMed search for each of the authors to see if they published any closely related papers after the original paper. Look at the title and the abstract, and check the list of references to see if the original paper was cited. This may reveal if the authors followed up their original work to answer lingering questions, or to pursue new projects that were stimulated by the original work.

<http://www.ncbi.nlm.nih.gov/pubmed/>

2. Use Google Scholar to find articles that have cited the original article. The default output lists the citing articles according to the number of times they have been cited, i.e. by their impact. That is useful for identifying significant articles, and so, the first listed articles will likely include some very important ones. I would suggest looking through quite a few pages, to scan the articles. Another approach is to select dates at the left panel, such as the first 5 or 10 years after the original article appeared. These are likely to include the work that was directly influenced by that research.

<http://scholar.google.com>

3. The Web of Science site can be used to find all citations of a published article, but unfortunately, our library does not have online access to all of that information. Nevertheless, it might be worth a look. You will need to be on campus, use a VPN, or perhaps login to the library.

<http://proxy.libraries.smu.edu/login?url=http://www.isiknowledge.com/WOS>

Make sure that the Search is using Web of ScienceTM Core Collection. Then next to Basic Search, use the popup menu to select Cited Reference Search. Now you will try to find the original article, by filling in an author name, e.g., Avery O*. Include other information such as the journal name, properly abbreviated: J Exp Med

In the third box, change the search term to page, and enter the first page 137. The paper we read is 2nd on the list, 1944. Click to show the co-authors. Now check the box at the left, and click on “Finish Search”.

There are 1928 citing articles. You can sort them different ways. If you change from Publication Date “newest to oldest” to “oldest to newest”, you will see the early citations.

4. Another way to search is through SciFinder, which I will not describe here, but some of you may be familiar with it. It is primarily used by chemists. If anyone has success with it, we would all be interested to learn about it.

<https://scifinder.cas.org/scifinder/view/scifinder/scifinderExplore.jsf>

It requires registration, and must be done on campus, similar to Web of Science, (or VPN).