Research Skills
Session 4: Evaluate a paper quality

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🔗 https://publons.com/researcher/1692944
http://scholar.google.com/citations

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Abstract

Assessing the quality of a paper is a challenging issue. So, there is a requirement to evaluate a paper based on some other metrics which cover many aspects of publication quality. The quality of the article can be estimated by many aspects, such as, the number of citations, the journal IF, the author h-index, the Altmetric score, number of views, and the paper content itself. The workshop concentrates on how to evaluate and measure a paper quality by introducing some indicators.

Keywords: H-index, Improve citations, Research tools, Bibliometrics, Research visibility, Research impact

Do Research, Don't Re-Search

Research Tools Mind Map

Web of Science
SCOPUS
EndNote
OATD
& many more Research Tools

Source: https://pixabay.com/en/books-stack-learn-study-library-1015594/

dtSearch
SpringerExemplar
Qiqqa
Academic Phrasebank
& many more tools

Source: http://promela.com/?download=homme-bureau-ordinateur-images-gratuite

Virtual Teams will become as important as

Research Tools
By: Nader Ale Ebrahim

(1) Searching the literature

(2) Writing a paper

Journal Citation Reports
Journal Metrics
Manuscript matcher
Find the perfect journal for your arti
& many more Research Tools

Source: https://pixabay.com/en/discussion-session-white-male-1874791/

(3) Targeting suitable journals

(4) Enh

393.7k views

Session   Topic

1. Introduction
2. Selecting keywords
3. Finding Research Papers
4. Evaluate a paper quality
5. Managing Research
6. Read a paper
7. Indexing Desktop Research Tools
8. Avoid Scientific Misconduct
9. Writing a Paper
10. Improve paper quality
11. Target Suitable Journal
12. Improve your Research Visibility and Impact

Outline

No.	Topic
1	Author Level Indicators
2	H and g-index
3	Paper/journal quality
4	Impact Factor
5	CiteScore
6	Keeping up-to-date (Alert system)
7	

Tasks for the first session

1. **Structure & planning your research** (Draw the literature map)

2. **Read:**

    *   https://www.dlsweb.rmit.edu.au/lsu/content/2_AssessmentTasks/assess_tuts/lit_review_LL/reading.html

    *   Cottrell, S. (2005). *Critical thinking skills - Developing Effective Analysis and Argument*. Basingstoke: Palgrave Macmillan.

    *   Chapter 3 of "Creswell, J. W. (2012). *Educational research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (4th ed.). Boston: Pearson Education, Inc"

    *   Chapter 3 of "Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Edinburgh Gate, Harlow, Essex CM20 2JE, England: Pearson Education Limited."

Tasks for the second session

1. Create the log file for your search term/s

2. Identify the main keywords set for your research

3. Identify the alternative keywords set for your research

4. Evaluate the search terms

5. Looking for selected keywords sets on:

   ✓ SCOPUS

   ✓ Web of Science Core Collection

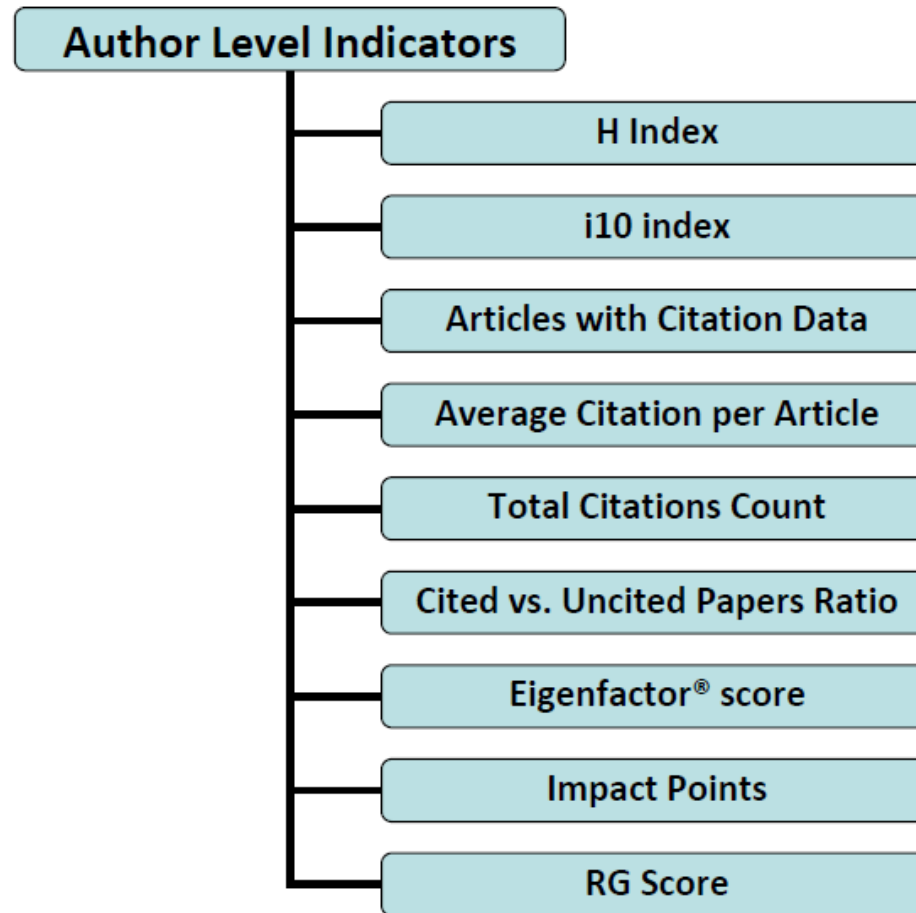6. Write the methodology used for selecting the final keywords set

Tasks for the third session

1. Install a reference management software

2. Download selected papers (based on the final keywords set) into the reference management software

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Author Level Indicators

Author Level Indicators

- H Index
- i10 index
- Articles with Citation Data
- Average Citation per Article
- Total Citations Count
- Cited vs. Uncited Papers Ratio
- Eigenfactor® score
- Impact Points
- RG Score
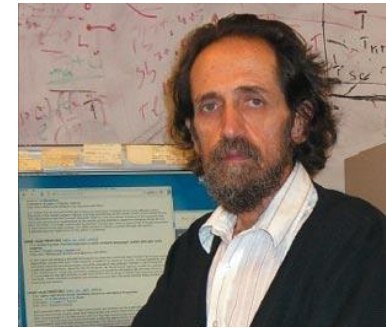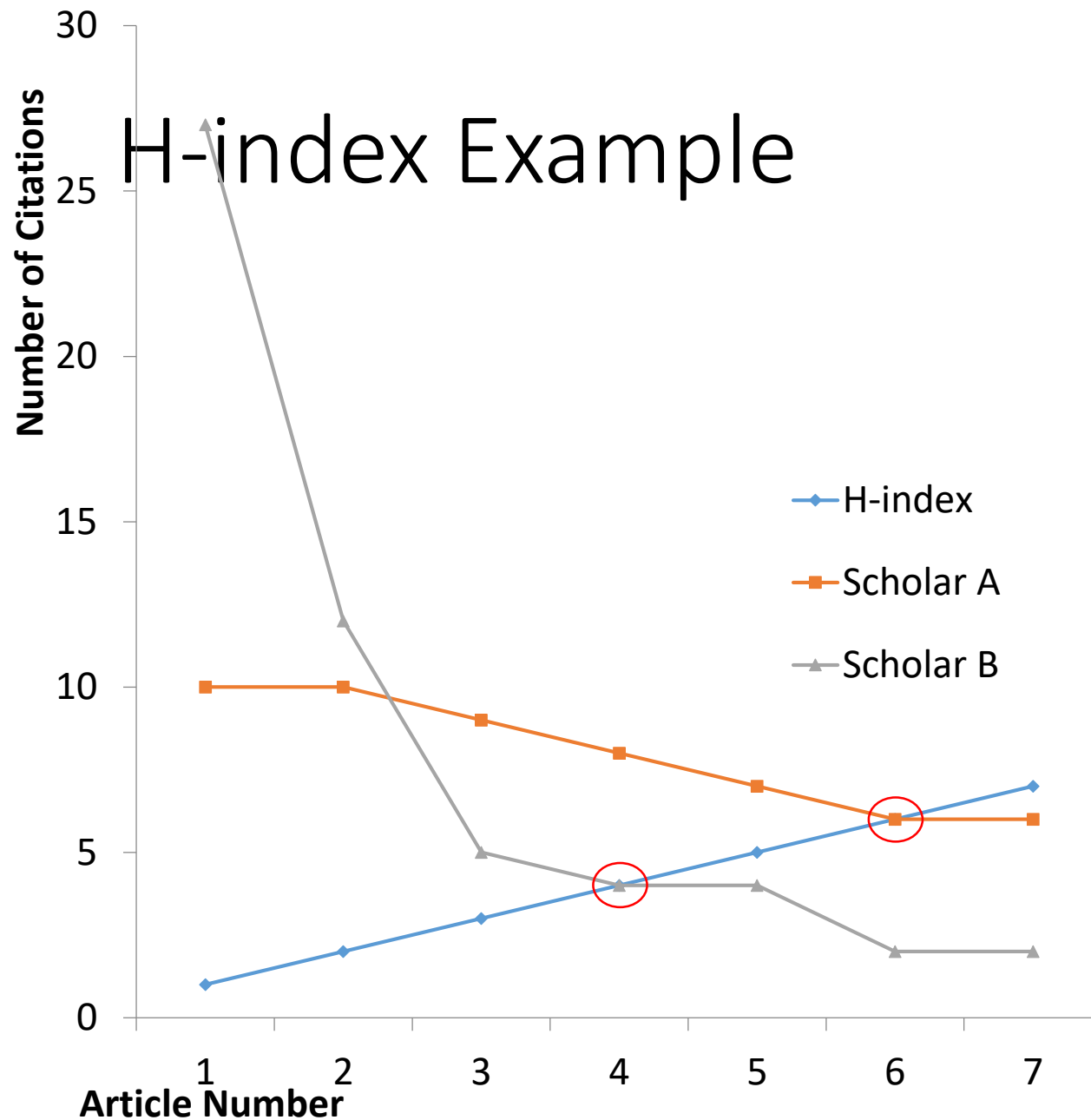
Source: Das, A.-K. (2015). *Research Evaluation Metrics*. 7, place de Fontenoy, 75352 Paris 07 SP, France: United Nations Educational, Scientific and Cultural Organization.

H and g-index

H-index Example

Jorge E. Hirsch

Scholar A	Scholar B
10	27
10	12
9	5
8	4
7	4
6	2
6	2
56 citations	56 citations
6 h-index	4 h-index

A scientist has index h if h of his/her Np papers have at least h citations each, and the other (Np-h) papers have no more than h citations each.

As an example, a researcher with an H-index of 15 has (of their total number of publications) 15 papers which have been cited at least 15 times each.

Researcher A

Paper rank	Citations
1	10
2	8
3	6
4	5
5	4
6	0

Researcher B

Paper rank	Citations
1	1348
2	159
3	50
4	4
5	4
6	3

Neither researcher can have an H-index of more than 6.

Source: http://guides.is.uwa.edu.au/content.php?pid=372347&sid=3050052

h-index importance

"Hirsch, who has a *h*-index of 49, says that a "**successful scientist**" will have an index of 20 after 20 years; an "**outstanding scientist**" will have an index of 40 after 20 years; and a "**truly unique individual**" will have an index of 60 after 20 years."

Source: Ball, P. (2005). Index aims for fair ranking of scientists. *Nature 436*(7053), 900-900.

Table 2: Publication and citation list of scientist S1

Rank (squared) - Publications	Citations	Sum
1 (1) A	20	20
2 (4) B	10	30
3 (9) C	9	39
4 (16) D	8	47
5 (25) E	6	53
6 (36) F	6	59
7 (49) G	6	65
8 (64) H	5	70
9 (81) I	5	75

Source: Rousseau, Ronald. "New developments related to the Hirsch index." (2006).

Normalized citation metrics put citation information in context

Citation rates vary among fields. What is good or average in mathematics is very different from what is good or average in biochemistry.

23.3 cites/paper
H-index: 13

14.5 cites/paper
H-index: 7

9.8 cites/paper
H-index: 7

4.2 cites/paper
H-index: 3

How "good" is this? What is the context?

Additional metrics are needed to understand research performance.

Source: Ann Kushmerick (May 3, 2013), Bibliometric Analysis Tools for Research Portfolio Analysis and Management, Manager, Research Evaluation and Bibliometric Data

All three publication lists have a Hirsch Index of 5

	Author 1	Author 2	Author 3
1	30 P1	30 P1	100 P1
2	10 P2	10 P2	70 P2
3	8 P3	8 P3	8 P3
4	6 P4	6 P4	6 P4
5	5 P5	5 P5	5 P5
6	1 P6	4 P6	1 P6
7	0 P7	4 P7	0 P7
8		4 P8	
9		4 P9	

H=? 5   H=? 5   H=? 5

Different bibliometric distributions
have the same H-Index

Source: Henk F. Moed, (2011) "New developments in electronic publishing and bibliometrics", CWTS, Leiden University, Netherlands & Elsevier, Amsterdam, Netherlands

Paper/journal quality

- Another guide to paper/journal quality is the general reputation of the association, society, or organization publishing the journal.

- Leading professional associations such as American Psychological Association (APA) or the Institute of Electrical and Electronics Engineers (IEEE) publish a range of journals that are highly regarded.

Impact Factor

- The most commonly used measure of journal quality is Impact Factor. This is a number which attempts to measure the impact of a journal in terms of its influence on the academic community. Impact Factors are published by Thomson-ISI

What are journal impact factors?

Impact factors are a measure of the "quality" of a journal - they identify the most frequently cited journals in a field.

Impact factors can be used to:

identify journals in which to publish

identify journals relevant to your research

confirm the status of journals in which you have published

The Impact factor formula

The impact factor of a journal is based on the average number of times that articles published in that journal in the two previous years (e.g. 2008 and 2009) were cited in the subsequent year (i.e. 2010). This is calculated using the following formula:

$$= \frac{\text{Cites in 2010 to items published in 2008 and 2009}}{\text{Number of items published in 2008 and 2009}}$$

If an impact factor is lower than 1.0 that means there were more articles published in the journal than there were cites to those articles in any given year.

Source: http://guides.library.vu.edu.au/content.php?pid=251876&sid=2437240

Be aware that...

- Many journals do not have an impact factor (sources other than JCR need to be consulted).

- The impact factor cannot assess the quality of individual articles.

- Only research articles, technical notes and reviews are "citable" items. Editorials, letters, news items and meeting abstracts are "non-citable items".

CiteScore

CiteScore 2015 methodology   ✕

CiteScore 2015 counts the citations received in 2015 to documents published in 2012, 2013 or 2014, and divides this by the number of documents published in 2012, 2013 and 2014.

Citations in 2015

Documents from 3 years

| 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |

3-year publication window

The 3-year CiteScore time window was chosen as a best fit for all subject areas. Research shows that a 3-year publication window is long enough to capture the citation peak of the majority of disciplines.

Frequency

	CiteScore	CiteScore Tracker (on Scopus.com)
Calculated	Annually	12 times per year
Updates	None	Monthly

Document types

All types of documents (research articles, review articles, conference proceedings, editorials errata, letters, notes, and short surveys) are included in the CiteScore calculation. Although articles in press are included in Scopus they are not included in the calculation.
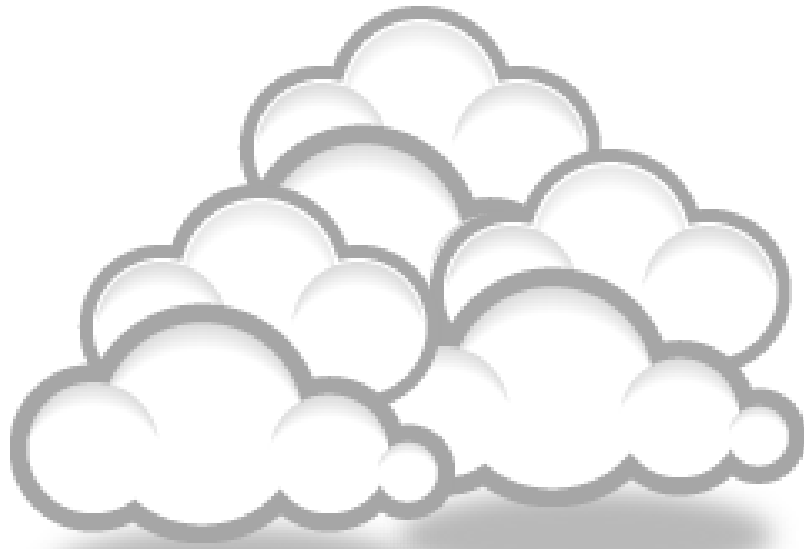
Keeping up-to-date (Alert system)

What is an alert service?

- Many journal databases and book publishers offer free alert services. These are an effective means of keeping track of the latest research.

- Alert services come in different forms. The most common include:
  - a search alert. This is a saved search which alerts you when a book or article that matches your search terms is published.
  - a TOC (Table of Contents) alert. Such an alert notifies you when a new issue of a journal is published, and provides you with the issue's table of contents.
  - a citation alert. This advises you when a new article cites a particular work.
  - Most alert services are email-based. An increasing number are now offered as an RSS feed. If you are just beginning, you might like to try email alerts first. These are generally easier to create.

Keeping up-to-date

Create a Google Alert

- Enter the topic you wish to monitor.

- Search terms:

- Type:

- How often:

- Email length:

- Your email:

Keeping up-to-date

Tasks for the fourth session

1. Measure the downloaded papers/journal's quality

2. Rate the downloaded papers in your Desktop Endnote library

3. Turn on Alert system in Scopus, WoS and other databases based on the selected papers

Thank you!

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🔗 *https://publons.com/researcher/1692944*
http://scholar.google.com/citations

All of my presentations are available online at:
https://figshare.com/authors/Nader_Ale_Ebrahim/100797

My recent publication:

1. A. Ghanbari Baghestan, H. Khaniki, A. Kalantari, M. Akhtari-Zavare, E. Farahmand, E. Tamam, N. Ale Ebrahim, H. Sabani, and M. Danaee, (2019) "A Crisis in "Open Access": Should Communication Scholarly Outputs Take 77 Years to Become Open Access?," *SAGE Open,* vol. 9, no. 3, pp. 1-8,
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3. Parnianifard, A., Azfanizam, A., Ariffin, M., Ismail, M., & Ale Ebrahim, N. (2019). Recent developments in metamodel based robust black-box simulation optimization: An overview. Decision Science Letters, 8(1), 17-44. doi:10.5267/j.dsl.2018.5.004. Available at SSRN: https://ssrn.com/abstract=3192794
4. Elaish, M. M., Shuib, L., Ghani, N. A., Mujtaba, G., & Ale Ebrahim, N. (2019). A Bibliometric Analysis of M-Learning from Topic Inception to 2015. International Journal of Mobile Learning and Organisation, 13(1), 91-112. https://doi.org/10.1504/IJMLO.2019.096470
5. Nordin, N., Samsudin, M.-A., Abdul-Khalid, S.-N., & Ale Ebrahim, N. (2019). Firms' sustainable practice research in developing countries: Mapping the cited literature by Bibliometric analysis approach. International Journal of Sustainable Strategic Management, 7(1/2). doi:. https://doi.org/10.1504/IJSSM.2019.099036

My recent presentations:

1. Ale Ebrahim, Nader (2019): Research Skills Session 1: Introduction. figshare. Presentation. https://doi.org/10.6084/m9.figshare.9931163.v1
2. Ale Ebrahim, Nader (2019): Introduction to "Research Tools": Tools for Collecting, Writing, Publishing, and Improving Research Visibility. figshare. Presentation. https://doi.org/10.6084/m9.figshare.8258957.v1
3. Ale Ebrahim, Nader (2018): Publishing Procedure and Strategies to Improve Research Visibility and Impact. figshare. Presentation. https://doi.org/10.6084/m9.figshare.7475036.v1
4. Ale Ebrahim, Nader (2018): Scientific Misconduct. figshare. Presentation. https://doi.org/10.6084/m9.figshare.7471988.v1
5. Ale Ebrahim, Nader (2018): Collecting, Writing, and Publishing via "Research Tools". figshare. Presentation. https://doi.org/10.6084/m9.figshare.7472273.v1

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5. Henk F. Moed, (2011) "New developments in electronic publishing and bibliometrics", CWTS, Leiden University, Netherlands & Elsevier, Amsterdam, Netherlands