iSkills: Research Metrics and Citation Analysis Tools. Part 1 – Journal Metrics.

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By the end of the session, you will..

Understand what is meant by journal metrics and how they are calculated based on citation counting.

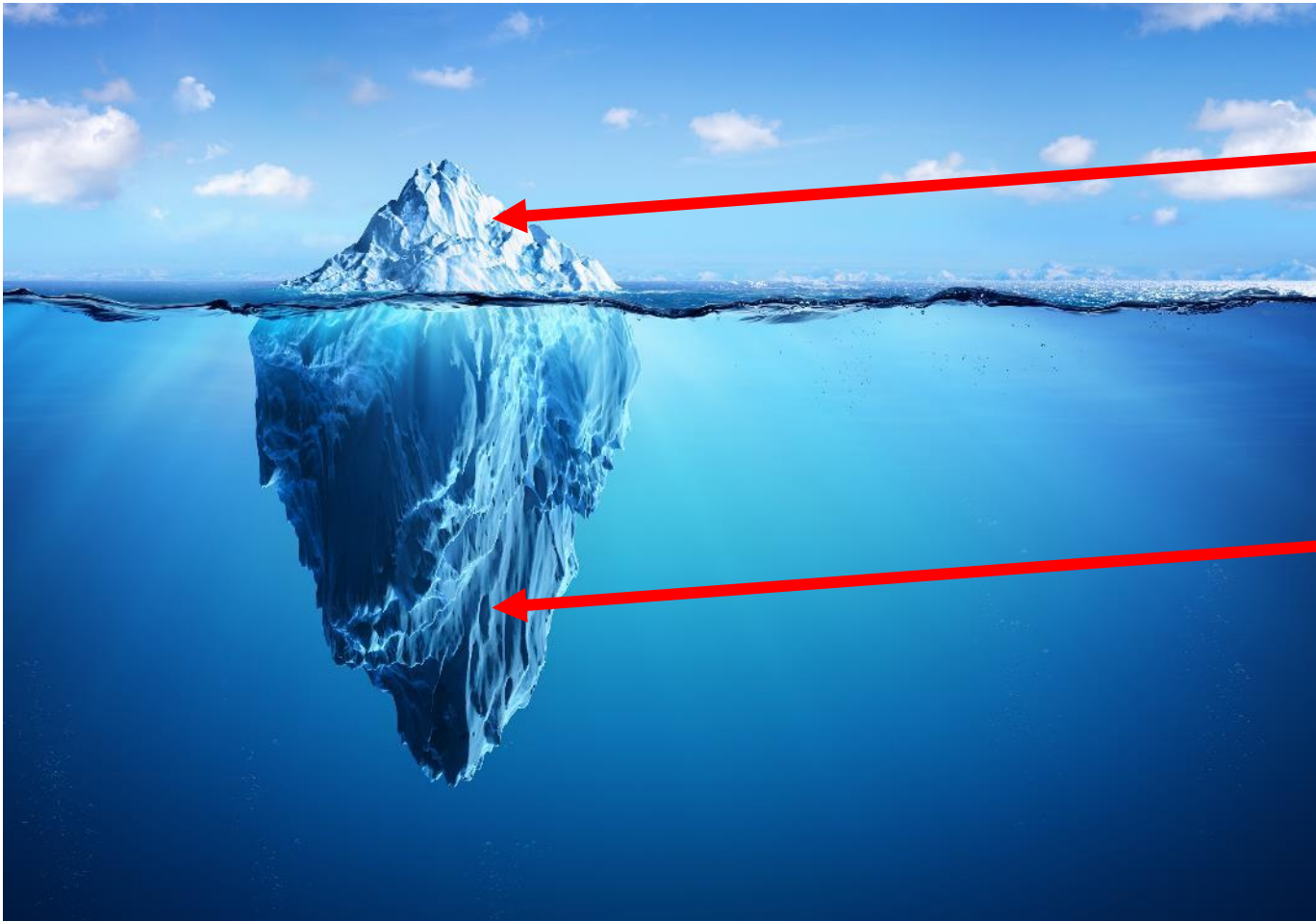Appreciate the applications and limitations of journal level metrics.

Be able to confidently use several software tools to find different journal level metrics.

What are research metrics?

- An attempt to quantify the **impact** of a piece of research.

- A means of ranking or comparing research in a quantitative way.

- *Not* an assessment of quality.

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Not all research outputs are counted...

Journal articles & Conference Proceedings

Books, posters, software, websites, events, talks, datasets, pre-prints, reports, podcasts, blogs, editorials...
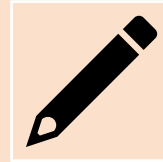
What is citation counting?

- Count how many times journals receive citations over a certain time.

- „In ==*theory*== -
  - Highly cited = Influential.

- „Journals can be ranked by citation counts.

- Citation counting is undertaken by database providers.

How can journal metrics help me?

Identify popular titles in your field to follow.

Help identify publication options.

Applying citation data to institutional rankings e.g. Times Higher Education rankings.

Identify top open access journals.

Many things can influence citation-based metrics!

Using metrics responsibly

Metrics do not supplant qualitative expert assessment.

Journal Impact Factor (JIF)

$$\text{Journal impact factor for 2021} = \frac{\text{Number of citations received in 2021 to articles published in 2019 and 2020}}{\text{Total number of articles published during 2019 and 2020}}$$

- A Journal Impact Factor of 1.0 means that, *on average,* published articles have been cited once in the last two years.
- Uses Clarivate citation data (i.e. Web of Science)
- Journal Citation Reports used to explore data.

CiteScore from Scopus

- How is CiteScore different to JIF?
  - Uses a similar methodology to calculate mean average citations.
  - *BUT*
    - Uses a 4-year window of data.
    - Based on Scopus data.
- Different subject categories.

Your Turn! No. 1

- We are going to do activity A in the workbook.

- Group 1 – please look at JCR

- Group 2 – please look at Scopus Sources

Download the workbook here: https://go.glam.ox.ac.uk/Metrics1MT

Answers for Activity A

- How many journals did you get for he Ecology category/subject in
  - JCR
  - Scopus Sources
  - For the JCR group – How did self-citations affect the JIF score?

- Which 3 journal titles came top for JCR and which 3 for Scopus Sources?

- What are their scores?

- When looking at your own subject area were there journals you expected missing from the list?

- What do you think might be some problems or drawbacks with these metrics?

JIF & CiteScore Limitations and Cautions

Difference between disciplines.

Can be influenced by self-citations back to content in the same journal.

Type of articles (review versus original paper) or publication (open access)

Does not differentiate between positive and negative reasons for citations.

Journal Impact Factors should not be used as a surrogate measure of the quality of individual research articles.

An example

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children
==(1,663 citations in WoS)==

Original 'Lancet' paper, Andrew Wakefield MMR Vaccine Controversy

RETRACTED: ==Ileal-lymphoid-nodular hyperplasia==, ==non-specific colitis==, and ==pervasive developmental disorder in children== (Retracted article. See vol 375, pg 445, 2010)

⚠ **Retracted Publication**

Wakefield, AJ; Murch, SH; (...); Walker-Smith, JA

Feb 28 1998 | LANCET   351 (9103) , pp.637-641

1,663
Citations

26
References

SJR –
Scimago Journal Ranking

Weighted citations – a citation from a prestigious journal is worth more.

A journal increases prestige by having its articles cited more frequently by other prestigious journals.

Based on a 3-year window of data from Scopus.

Values >1 indicate papers are cited more than the average.

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Google Scholar Metrics

- Ranks journals according to an h-index.

- To rank highly, a journal must publish many frequently cited articles.

- You can browse journals by broad subject area and subcategory.

Your Turn! No. 2

- In groups again do Activity B -
  - ○ Group 1 – Scimago
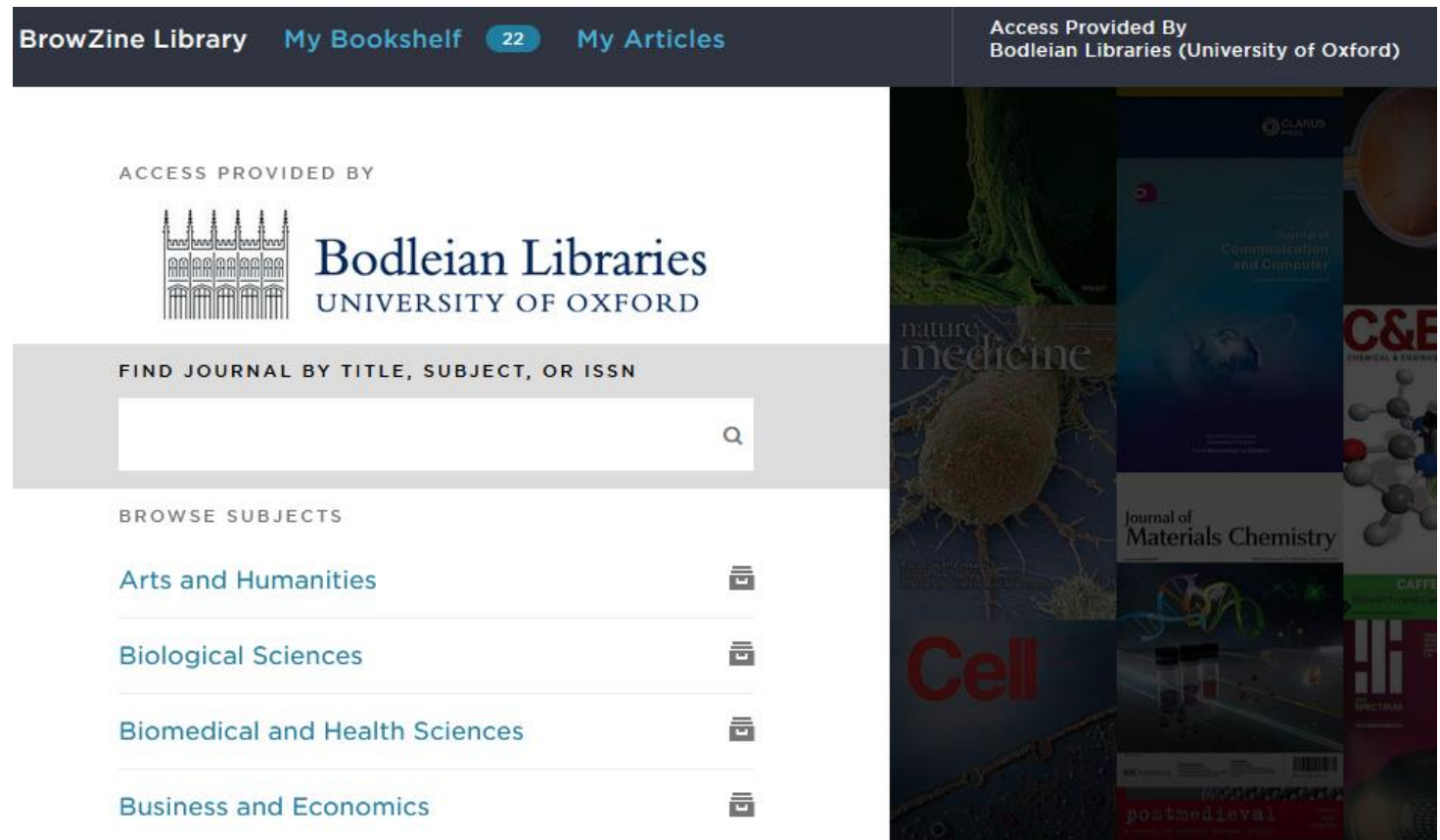 - ○ Group 2 – Google Scholar

Answers for Activity B

- What were the top 3 journals in Philosophy according to the SJR?

- What is the SJR score and what is the CiteScore?

- Did you notice any differences with the top journals in the SJR versus CiteScore?

- What are the top 3 Philosophy journals and their h5-index values?

- Any differences between the number of journals listed on Google Scholar compared to the other platforms?

BrowZine

- A user-friendly way to access our e-journal collections.

- Follow journals you find in JCR, Scopus Sources or ESI.

- Get the latest contents lists for your favourite journals.

- Set up automatic e-mail alerts.

In your own time...

- In the workbook try Activity C and set up BrowZine to keep track of new journals you may have found.

Summary

Journal Citation Reports
- Journal Impact Factor (JIF)

Scopus Sources
- CiteScore
- SJR Scimago

Google Scholar
- Journal H-index

DORA

- San Francisco Declaration on Research Assessment (DORA).

- Oxford University is a signatory.

- Aims to improve the ways in which the outputs of scholarly research are evaluated.

- Critical of inappropriate use of journal level metrics like JIF and looks at other ways of evaluating research output.

- More information: Read the Declaration | DORA (sfdora.org)

- See also:
  - Leiden manifesto for research metrics

University of Oxford Guidance on using research metrics

- The University has developed principles to promote responsible use of metrics.

- Based on DORA and the Leiden Manifesto.

- View the principles and implementation examples here -

- https://researchsupport.admin.ox.ac.uk/information/principles

Recap of aims...

Understand what is meant by journal metrics and how they are calculated based on citation counting.

Appreciate the applications and limitations of journal level metrics.

Be able to confidently use several software tools to find different journal level metrics.

Further help

- Videos, slides and handout (QR code)

- https://www.bodleian.ox.ac.uk/ask/workshops#/course/ISKILL0050

- Contact email

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Any Questions?