

Responsible Research Assessment

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Responsible Research Assessment Working Group





Research Assessment Shapes Research Culture

Research assessment influences how research is performed and disseminated

What funders/reviewers value and measure will influence what is valued in the research Ecosystem

We can initiate positive culture change through careful design and implementation of research assessment

We must address barriers to cultural change, especially quantitative pressures to perform

More and more papers published

Publication rates of scientific papers
skyrockets

(Bornmann & Mutz 2015)

Scientists are increasingly overwhelmed by
information

(Rayner et al. 2016)

Reading is increasingly shallow.

(Renear and Palmer, 2009)

Lack of focus on reading is worsened by
excessive non-scientific activities

(Ziker 2014)

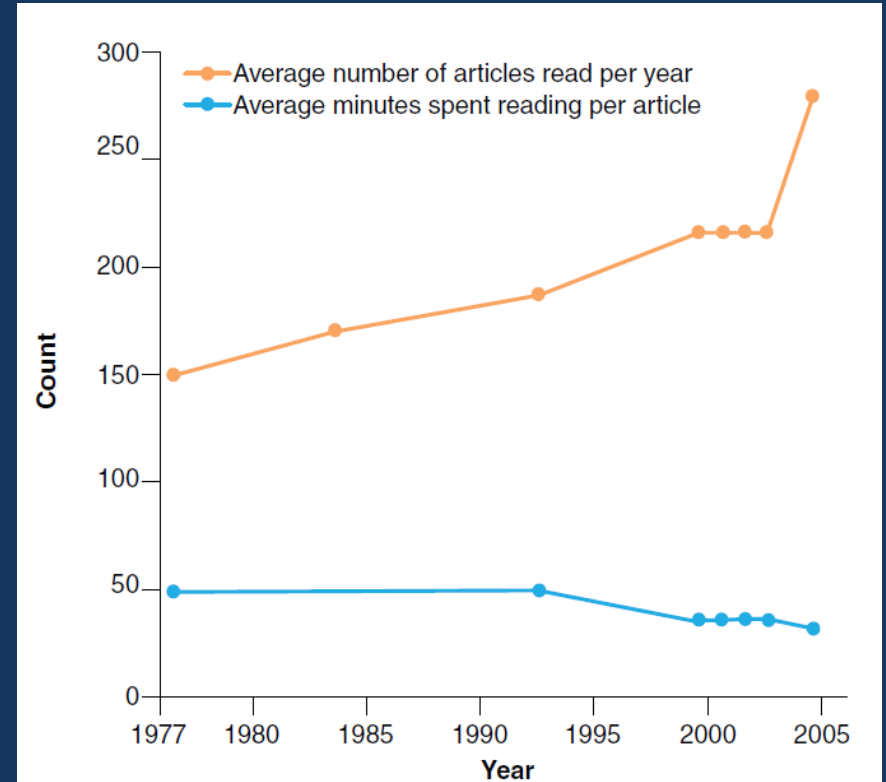


Fig. 2. Increase in the number of papers read by scientists per year and decrease in minutes spent reading each paper, trends based on a series of survey studies conducted by Tenopir *et al.* between 1977 and 2005 (10, 34, 35).

Responsible Research Assessment

Foster:

Practices that highlight and incentivize research quality

Avoid:

Misapplication of narrow criteria and indicators of research quality in ways that distort incentives, create unsustainable pressures on researchers, and exacerbate research integrity/reproducibility problems;

A reduction in diversity of research missions and purposes or to focus on lower-risk, incremental work;

Systemic biases against those who do not meet - or choose not to prioritize - narrow criteria and indicators of quality or impact, or to conform to particular career pathways;

San Francisco Declaration on Research Assessment



<https://sfdora.org/read/>

The Leiden Manifesto for research metrics

Use these ten principles to guide research evaluation, urge Diana Hicks,
Paul Wouters and colleagues.

The Metric Tide

SOCIAL SCIENCES

Responsible Science Assessment: downplaying indexes, boosting quality

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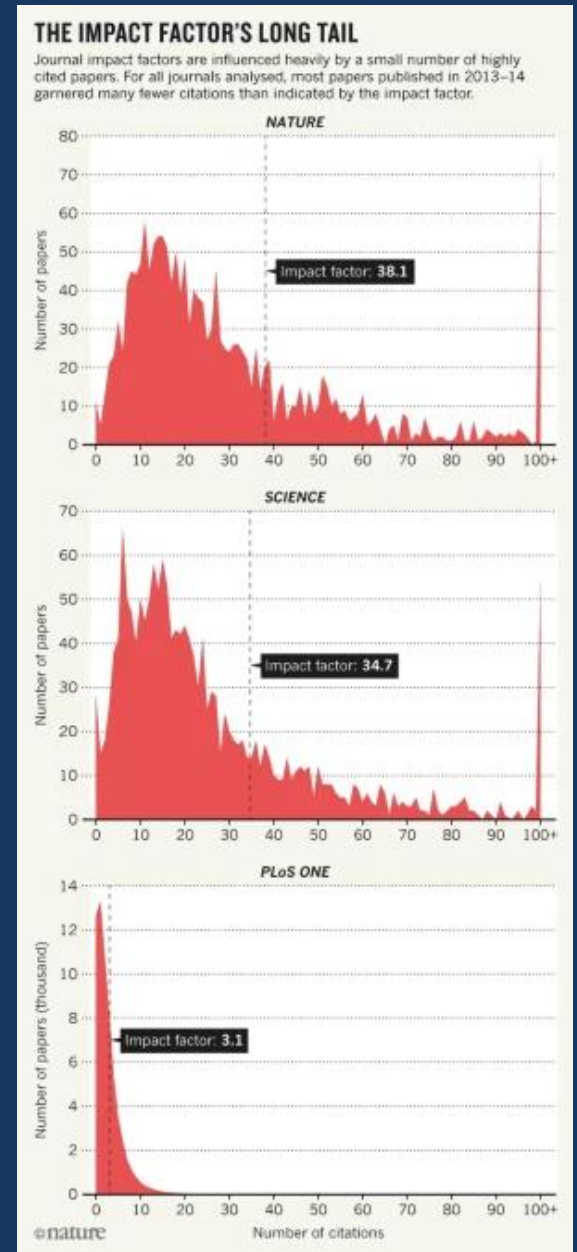
Responsible Research and Innovation - RRI

Responsible Research Assessment Actions

- Focus on quality assessment: what effectively pushes the boundries of knowledge furthest?
- Actively avoid bias (authors, origin, etc)
- Opportunities provided with online activities: Open Science, Open Access, no size limits
- Assess research on its own merits rather than on the basis of the journal in which the research is published
- Do not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist's contributions, or in hiring, promotion, or funding decisions.

Journal Impact Factor

- Average number of citations per year per paper
- Highly manipulated by some journals/publishers
 - Reviews
 - Commentaries
 - Imposed citations
 - Date published x online
- Does not reflect quality, especially in individual assessments
- Better evaluation of a journal: editorial board, links to scientific societies, reputation and history (not brand names!!)
- Better still: evaluate the Science, not where it was published!!





Preprints allow visibility before formal peer review

Responsible Research Assessment Actions

- Focus on the big picture: details are important, but not exclusively.
- Is the question clear/important?
- Is the experimental approach appropriate?
- Are necessary controls present?
- Are experimental results clearly presented?
- Are conclusions supported by results?
- Evaluate if wherever appropriate authors cite primary literature rather than reviews.
- Be explicit about criteria use for each assessment point.
- Be constructive, instructive, polite.