Publication and Ethics[1]

SCC5933 – Research Methodology in Computer Science

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Sumário

Publication

- Results are obtained in different research stages
  - Researcher should decide when those are sufficient to be published
- Publish is to make something public, to be known and used
- That is why language must be clear and simple, show the main contribution and understandable not only to specialists
- Publications are the main evaluation criterion for
  - graduante programs and universities
  - grant and scholarship/fellowships
  - academic career

Publication types

1. Technical report
2. Extended abstract in events
3. Book chapter
4. Full paper in conferences
5. Full paper in journal

Technical report

1. Usually has a detailed description of methods and experiments
2. Initial results of reproduction of existing methods
3. Helps as a writing exercise, which may be included in a future document

Extended abstract

1. Disseminate and discuss initial results

2. Impact is low since the text is short and with reduced readership

3. If presented in a conference, may be important to know other researchers, discuss and have new ideas

Book chapter

1. Focus on presenting some subject in a didatic way
2. Usually does not include original/novel results

Full paper in conference

1. Disseminate research to other researchers with publication of full paper

2. Usually results in a faster publication with significative impact (this impact depends on the conference and quality of the paper)

3. Can help researcher to be exposed to different ideas and criticism

4. Depending on the case, may result in feedback about the paper and the presentation
   (but can also be a frustrating experience)

Full paper in journals

1. Journals are the most prestigious publishing option
2. Has editorial board and reviewing committee
3. There is competition and rigorous acceptance criterion (which usually depends on the assigned editor)
4. Due to reputation, and wider readership, there is more impact potential

Impact Factor

1. Yearly average number of citations to recent articles

2. Computed since 1975, and listed at the Journal Citation Reports (JCR), for each year relative to the previous two years.

3. Can result in different ranges for different areas

4. A good journal usually has FI ≥ 1

5. Criticism:
   i) area/subarea variance,
   ii) incompatibility between the average, which results in a real number, and the Bradford law of counting which is discrete,
   iii) average citation does not guarantee impact

H Index

1. Created to evaluate researchers based on their most cited papers

2. Can also be employed for departments, universities, journals and conferences

3. A researcher with some h index, has h papers with at least h citations.

4. Criticism: i) does not consider the area of the citation, ii) does not consider the placement of the author or the number of authors in the paper, iii) it is harder on young researchers

Qualis-CAPES Brasil

1. Created to evaluate Masters/PhD programs in Brazil, but also used to evaluate researchers, with 8 levels (A1, A2, B1, B2, B3, B4, B5, C)

2. As a general rule of thumb, the Impact Factor or h-Index are used as proxy measures, but there are many distortions/anomalies

3. It is defined per area, each committee may create specific rules, pushing or pullling journals to lower or higher levels.

4. Exemples (Computer Science Qualis):
   - PLoS One, FI 3.05 — Qualis B2
   - IEEE Geoscience and Remote Sensing Letters, FI 2.23 — Qualis A2
   - Pattern Recognition Letters, FI 1.58— Qualis A1

5. Criticism: i) distortions within and between areas, ii) reinvention of the wheel, iii) indirect use to evaluate researchers.

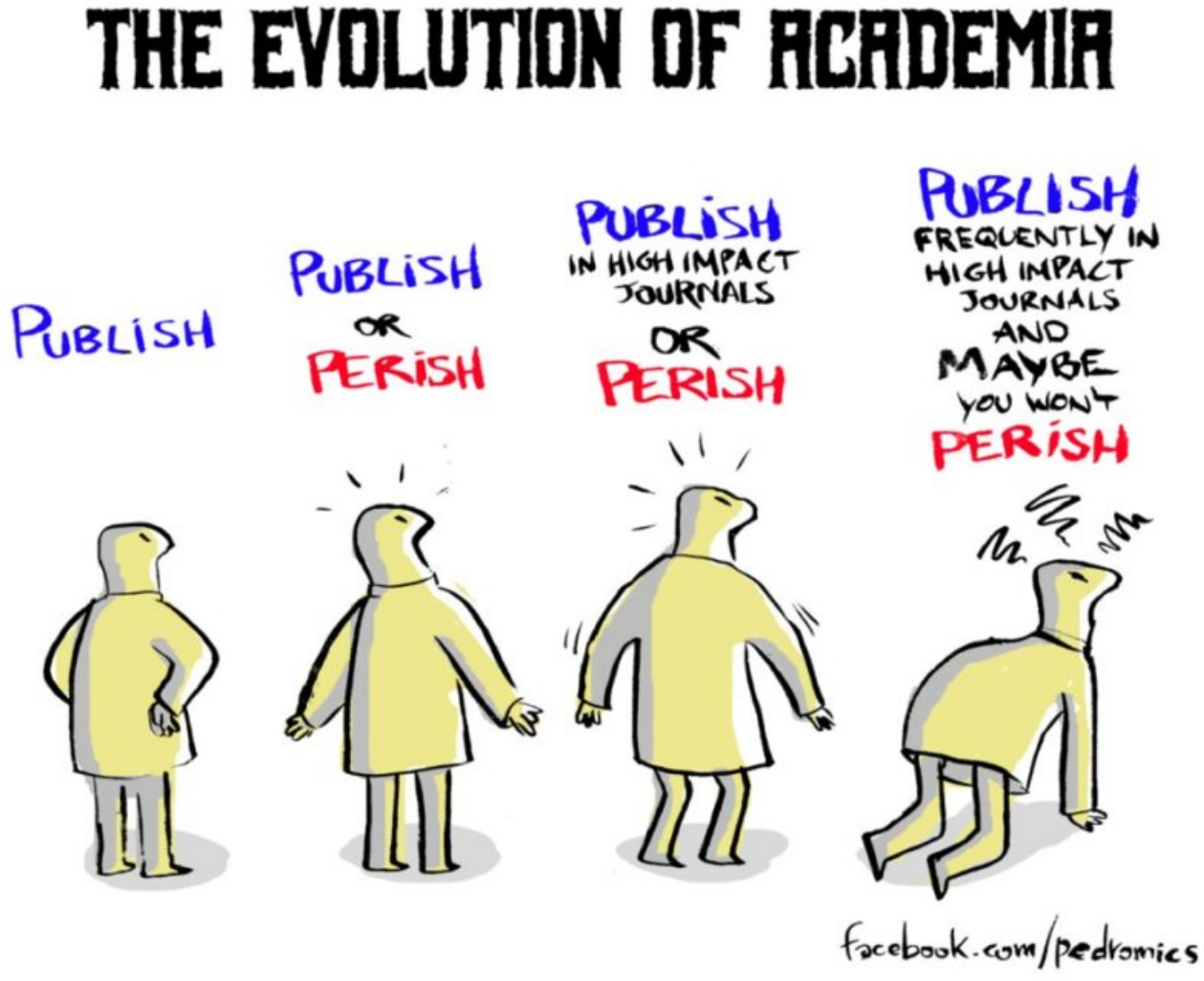
Reproducibility and replicability

1. Closeness of the agreement between the results of measurements of the same measurand carried out under changed conditions of measurement.

2. A proper scientific work should be described so that to be reproducible/replicable

3. Some journals already encourage/require that the original data from which the results and plots are generated is made available

Research Ethics



Research Ethics

Examples of unethical cases

1. Brazilian journals used cross-citation to increase their IF, resulting in their elimination of the JCR
2. Researchers slice their results to obtain the highest as possible volume of publication, a.k.a. salami science
3. Fraud and plagiarism: recently caused researchers to be expeled from scientific societies and demission from univerisity positions

Plagiarism

- Wrongful appropriation of someone elses work

- Lead to nocive vicious cycle

Plagiarism

- Types of plagiarism
  - Literal copy of text/images
  - Copy of algorithms and methods

- If the source and authorship is clearly identified, it does not count as plagiarism