Evaluation Tool for Bibliometric Studies

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About the instrument: The initial structure is derived from an evaluation instrument for quantitative research[1] and amended to incorporate criteria identified by Glanzel (1996)[2]. [i]This document is intended for quite different purposes than those presumed by Glanzel, whose concern it is to support standardization in methodology and terminology between bibliometric researchers. This tool is meant to support critical evaluation of bibliometric research for non-experts in this subspecialty area, with the purpose of practical application of the results within the framework of Evidence-based Library and Information Practice.

I would be pleased to receive comments and suggestions for the improvement of this evaluative tool, which is still in early stages of development.

1. Basic information	
Citation of work being appraised	
Stated objective(s) of research	
Key findings	
Does the study use mixed methods (more than one kind of method)? If so, what other method(s) are used? You may need to use additional evaluative tools.	
2. Literature review	
Is the literature review relevant to the population, setting, study objectives, and methodology used for the present research?	
Are included materials up to date and comprehensive?	
Do the authors appear to have evaluated the quality of the cited materials?	
If a bibliographic database is used, have the authors considered published or unpublished evaluations of the database as a way to understand problems they may encounter?	
Does the literature review clearly support the need for the present research?	

[1] Evaluation Tool for Quantitative Research Studies, published by the Health Care Research and Development Unit (HCPRDU), University of Salford, 2005. Available http://www.fhsc.salford.ac.uk/hcprdu/quantitative.htm
[2] Glanzel W. (1996). The need for standards in bibliometric research and technology. Scientometrics, 35(2):167-176.

3. Data set: Acquisition and analysis	
How were the data acquired, and is the process clearly explained? (i.e., from a bibliographic database, handsearching, etc.)	
What are the exclusion and inclusion criteria for the data?	
Do these criteria seem relevant to the research question(s)?	
Are retrieval methods described in sufficient detail to replicate the process?	
Are the limitations of the data source(s) considered?	
Are sufficient examples (tables, figures, etc.) provided to help you understand the data handling processes?	
If there are discrepancies or contradictions in the data, are they accounted for (i.e., missing or incomplete information)?	
Is the process for organizing the data logical and clearly explained?	
If categories or themes are assigned as a way to group information about the data, are they a) appropriate and sufficient to respond to the research question(s)?	
b) derived from the data itself, or from prior research?	
c) validated by some means, such as double-checking by other trained researchers, with discrepancies identified and resolved? If so, are interrater reliability statistics provided?	
d) defined and labeled using unambiguous terms?	

4. Statistical analysis	
Is the method chosen for statistical analysis appropriate for the question and the data?	
Is the analysis reproduceable?	
Are the parameters for statistical significance established and explained?	
Are outliers (anomalies in the findings) discussed in terms of cause and effect?	
5. Findings, contribution, and generalizability	
Does the study achieve its original objective(s)?	
If the study builds on prior research, does the present study validate, refute, or add to the earlier findings?	
If there are discrepancies or contradictions in the findings, are they discussed?	
Can the study by generalized beyond the setting or data examined in this study?	
What information do you need to obtain locally to assist you in responding to the findings of this study?	
Can the findings be used in your setting?	
Can the methods used in this study be used in your setting?	

[i] I am most grateful to Lorie Kloda, editor of the Evidence Summaries section of the open access journal, Evidence Based Library and Information Practice (https://ejournals.library.ualberta.ca/index.php/EBLIP), for having shared this document with colleague Vincent Larivière, who in turn suggested additions.