

# Qualis 2011-2013 – The Three Rs

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The intense debate sparked by the deployment of New Qualis, which was the base of CAPES evaluation on the 2008-2010 period reveals the doubts and controversies generated by the scientific community. We should not now return to that theme, because water does not move past windmills. But the debate sponsored by FAPESP and BIREME in September 12 last raised questions that seem to be consensus and that perhaps should be the object of careful analysis over the next three years. The key can be summarized as follows:

1. Half of the areas of postgraduation used the Impact Factor of the Journal of Citation Reports (ISI-Thomson) as the sole criterion for evaluating the scientific production of postgraduate students and their supervisors;
2. Other evaluation metrics exist and can be taken into account;
3. Hundreds of Brazilian scientific journals may have been rated below adequate levels.

The use of the ISI Impact Factor as single metric for evaluating the scientific merit of individual articles is an unwarranted extrapolation of its applicability. It was published in issue 65 (10) of *Clinics Journal*, October 2010, in an editorial [1] that deserves consideration. The argument reflects a basic concept for decades issued by Eugene Garfield, the inventor of this metric: Impact Factor measures (imperfectly) the quality of journals, but in no case the quality of each article published there. Theoretically, it would be more appropriate to count the number of citations per article as a measure of its quality. However, this procedure would have limited applicability for evaluating the scientific output of graduate students and their mentors: their production could (and should) be assessed accordingly, but the production of graduate students would suffer the consequences of the novitiate.

The use of other existing metrics suffer from the same limitations: the extrapolation of metric of journal to the article published there does not resist any theoretical analysis. But, *faute de mieux*, we know that the CTC-ES will hardly renounce all use of some quantitative metrics to evaluate the hard sciences.

However, it would be prudent to introduce route correctors to the next three years. The production of scientific advisors should be based on the number of citations of their production. But CAPES may not abdicate metrics like impact factor to evaluate the production of graduate students in the field of hard sciences. However, a

series of corrective measures required to mitigate the inadequate theoretical account in 2008-2010 QUALIS. To fix ideas, I thought of a slogan-synthesis, which is reflected in the title of this editorial. The next QUALIS which should at least cover THREE Rs.

- R-1: REMOVE periodic review from the QUALIS system. I examined the first 2000 collection of journals in ISI-JCR collection in decreasing order of Impact Factor, seeking journals with the following expressions in their titles: Reviews, Recent Progress, Critical Evaluation, Advances, etc. The result is what one might expect, review articles are cited more often than original research articles, so that periodic review should be at the top of any ranking based on impact factors. And that is exactly what happens: among the 20 titles of highest impact (97.5 percentile), nine (45%) belong to the category, among the 800 first (90th percentile), I counted 147 (18.2%) and among the first 2000 (75th percentile), I counted 192 (9.6%) of periodic reviews [2]. In anticipation punish myself, if any small mistakes appear, because these numbers are the result of a hand count within the site [www.isiknowledge.com](http://www.isiknowledge.com). But even this possible error in counting change the fact that the 2008-2010 QUALIS included in its account a very considerable number of journals that have nothing to do with the activity of publishing original science. If we look only at the first 800 journals in the collection, where are located all the QUALIS A journals of almost all areas of the hard sciences, we realize that almost 20% should have been excluded. It is easy to conclude that this unjustified inclusion seriously distorts the calculation of cutoff levels for the various tables A1, A2, B1, and in some areas, even B2 and B3. This “overrating” of cut-off levels will necessarily result in a “underrating” of the classification of postgraduate programs, an underrating that has nothing to do with the intrinsic merits of the studied area. After this indispensable REMOVAL, it follows as a corollary that it will be obvious that it will be RECALCULATED (we could even baptize this recalculation as Corollary R-1a) the cutoff values for each category QUALIS.

- R-2. RECOGNIZE other metrics. The first metrics ignored by QUALIS 2008-2010 was the cites/document - SCOPUS ([www.scimagojr.com](http://www.scimagojr.com)). Comparisons that have already been published [2-4] have shown a statistically perfect identity between the IF JCR and “cites/documents - 2 years” SCImago. The CTC-ES was well aware of this important similarity, but the argument disclosed orally by

some members said that the SCImago index is superfluous, because the result would be the same with any of the indices. This may be true for journals of the Anglo-Saxon origin, who receive preferential treatment in JCR, but is far from reflecting the reality of the periodicals in Latin countries. More significantly, it is very far from reflecting the reality of Brazilian journals. For the 2008-2010 evaluation, only 31 local journals received QUALIS classification related to their Impact Factors, in a time on which journals were cataloged in the SCImago system. This exclusion of 173 Brazilian titles from QUALIS should be described as unjustified discrimination against national journals. It is clear that there was no discriminatory intent, but the result of this ill-conceived analysis had harmful consequences. The second measure ignored by QUALIS 2008-2010 was the IMPACT FACTOR SciELO. Here, QUALIS was well beyond this deviation: when classifying SciELO journals below the pubmed journals the CTC-ES made a more ill-considered discriminatory decision, this time against one of the most respected Brazilian initiatives in the world of international science. The SciELO system is at least as hard as PUBMED in terms of admission, but has a property absent in PUBMED: IMPACT FACTOR provides a listing for its collection! This IMPACT FACTOR necessarily underestimates the ISI-JCR Impact Factor, and the “cites/document” SCImago, for a simple reason: the SciELO collection contains less than 10% of journals, compared with the ISI-JCR and SCImago. It is worth repeating: the SciELO IMPACT FACTOR for any periodical collection represents an underestimation than it would if it were its respective IF if it would be included in the ISI (or its cites/documents on SCImago). This is a result that does not require evidence as necessarily results from the disparity between the sizes of collections. Recognizing the SciELO impact factor does not only partially correct the mistake by ignoring it, as it lifts more than a hundred Brazilian journals to levels closer to reality. This second R became long, but can be summarized: (a) for journals represented in JCR-ISI and SCImago, one should adopt a QUALIS classification that reflects this dual representation; (b) for periodic represented in JCR-ISI or SCImago, one should adopt the existing value, (c) for journals included in SciELO, and not the other two, one should adopt SciELO IMPACT FACTOR as equivalent to the other two.

•R-3. REASSESSING Brazilian journals. Next QUALIS, all Brazilian journals, except without indexation (now classified as QUALIS C) should be reclassified one or two points above its nominal position. In making this proposal I am not inventing anything. Several areas of evaluation already adopted this procedure. Notable among them, CHEMICAL area has reclassified upward the three Brazilian journals with a direct interest in the area: Brazilian Journal of Chemical Society, Annale of the Brazilian Academy of

Sciences and New Chemistry. The area of Biological Sciences II reclassified upward one of the major medical journals in the field, although this natural reclassification might be criticized as discriminating against other equally reputable journals.

The basic idea behind this 3Rs is the need to be understood the *raison d'être* of subsidizing Brazilian journals. The establishment of SciELO at the turn of the millennium, has revolutionized the publishing of scientific Third World. For the first time, peripherals periodic became visible on an equal footing with the giants of the First World. In ten years, these journals have raised and gained a degree of international respectability as never before imagined possible. A few more years of growth would lead to the best international standards. The discrimination against Brazil of QUALIS 2008-2010 represents an obstacle to that progress. The assessment areas there will be more guilty of this mistake are the three Medicines and two of the three Biological Sciences. The others understood in varying degrees the need to protect the national product. This is not the first time that I support the notion that the existence of local journals is strong scientific need for sovereignty. If we look back, 1980 for example, we would be contemplating a nation with a small handful of good scientists, but scientifically insignificant on the whole, a nation that was just beginning to be able to sustain quality journals. Today, thanks to the fantastic work even by CAPES, Brazil became a significant producer. Brazilian journals of high quality will become increasingly more imperative needs. Only then we can ensure international recognition of Brazilian scientific discoveries of importance. The next QUALIS must proactively participate in this effort.

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