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Letter to the Editor

The devil is in the detail: Concerns about Vanclay's analysis of Australian journal rankings

Since the release of the Australian Research Council's (ARC) ranked journal lists for its Excellence in Research for Australia (ERA) initiative, there has been a rush by academics to analyse the distributions across the four ERA bands – A*, A, B and C (e.g. Lamp & Fisher, 2010; Pontille & Torny, 2010[1]). Most of these analyses have focussed on a single, or a small number of, fields of research (FoR). Having been contracted by the ARC as an external consultant in the development of ERA, my knowledge of the various steps undertaken in the construction of the journal lists is inevitably much more detailed than anyone can glean from the ARC's published documentation. Many of the articles have minor errors in their understanding of how the journal rankings were constructed, or have failed to appreciate the nuances behind the process. Nevertheless, the data analyses they present are for the most part reasonably robust, and drafting nit-picking comments on relatively minor points is a time-wasting occupation I have no intention to pursue. However, Jerome Vanclay's recent article in this journal (2011) uses such a flawed methodology, that in this instance I felt compelled to comment.

Vanclay raises a valid concern in his article– why are there no journals ranked A* in the ERA journal list for Forestry Sciences? However, his advocacy of a need to revisit these rankings is undermined by three basic errors in his analysis. I elaborate on those errors below.

(i) Vanclay undertakes his analysis "using only the primary FOR code to avoid double-counting". *There is no primary code.*
Nowhere in the documentation on the ARC website is there mention of a hierarchy of FoR codes in the lists (ARC, 2010a). That is simply because there is none – if a journal was classified to three different disciplines, it applied equally to each discipline. I do not know how the decision was made on which FoR was put into the first FoR column of the ARC's spreadsheet. I suspect it was a non-decision, and simply reflects which code happened to be entered first. The problem this causes is clearly demonstrated with one of the two-digit FoR divisions that concerns Vancaly most (07 Agricultural and Veterinary Sciences). It is true this division has only one A* journal in the list where that code appears in the first FoR column in the ARC's spreadsheet, but there are another five that appear in the second and third FoR columns.

(ii) Vanclay has failed to grasp that, for the Design Practice & Management FoR, *43 peer reviewed conferences have been ranked,* in addition to 42 peer reviewed journals.
This is an easy, but nevertheless unforgivable, mistake to make. It is easy because very few disciplines felt it necessary to undertake the enormous task of ranking conferences in addition to journals, so these are often overlooked in discussions. Only in Information and Computing Sciences, Built Environment and Design, Engineering, and Technology were conferences ranked (ARC, 2010b). Even for these, conferences were not ranked for every FoR. It is essential to look at the two outlet rankings together, not independently of each other.

Including conferences in the analysis of Design Practice & Management highlights two issues. Firstly, the proportion of outlets in A* and A journals combined (conference rankings do no split their top tier) drops to 34%. This is still higher than for most other disciplines, but on examining the distribution it appears that the cause is a second issue, the small number of conferences ranked C, rather than the large number of outlets ranked A and A*. There may be a simple reason for this – that the Design discipline put less effort into populating the bottom tier than did other disciplines. It should be noted that the Deans of Computer Science undertook a ranking of conferences in their discipline that pre-dated ERA developments, and therefore had much more time to be comprehensive. The ARC also made clear, and stated on record (Lamp and Fisher, 2010), that the tier descriptors were the most important aspect of rankings – the specified 5%/15%/30%/50% breakdown was simply a guide to the approximate distribution that they expected from the definition of the tiers. There were always going to be deviations from this for quite valid reasons, and not just 'game-playing' on the part of discipline groups.

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[1] For a more extensive list of articles that look at journal rankings, and in particular those devoted to ERA, see John Lamp's web resource: http://lamp.infosys.deakin.edu.au/era/?page=pubs.

(iii) Vanclay has used Scopus and Web of Science (WoS) data to compare Forestry Sciences and Design Practice & Management. This is an invidious comparison because of the poor coverage of Design Practice & Management journals by both databases.

Design Practice & Management, as it is defined in the Australian and New Zealand Standard Research Classification Scheme (ANZSRC, 2008), is a discipline at the intersection of applied science and the arts. The coverage of its journals by both the Web of Science (WoS) and Scopus is very low, and for this reason peer review of nominated publications was used in lieu of the citation analysis undertaken for Forestry Sciences. Because of this, it is unsurprising that any attempt to correlate the *h*-index or the Journal Impact Factor from these databases will lead to a poor correlation in the case of Design Practice & Management. It is not realistic to deduce anything meaningful from the poor correlation. We will have to await more comprehensive journal and conference coverage before a valid comparison can be made between these two disciplines.

Government run assessment systems such as ERA and the Research Assessment Exercise/Research Excellence Framework in the UK provoke heated debate. Authors need to take extra care to ensure that their methodology is robust, otherwise they run the danger of having their concerns summarily dismissed because of the flaws in their analyses. Vanclay has undermined his ability to raise his concerns about the Forestry Sciences list because of the article's shortcomings. The journal rankings are by no means perfect, and from a bibliometrics perspective I would like to see a better delineation of fields to assist in constructing benchmarks that are more closely aligned to the ANZSRC scheme than anything that can be achieved using WoS or Scopus journal categories. But the debate must be focussed on robust analyses.

Vanclay still has one valid point that should be investigated further – why are there no A* journals in the Forestry Sciences journal set? It is an interesting question as the rankings were developed by the Forestry Sciences community themselves. One possible explanation, and I have no 'inside' knowledge on this issue, is that those academics who participated in the process believed that most of the "best" forestry articles appeared in more general journals. As only six forestry journals appear in Vanclay's Table 2, there does seem to be some indication that this could be part of the reason. But it cannot be all – and it will be interesting to see what happens in the revised list for ERA2012. That process is now underway (ARC, 2011b).

As an interesting postscript, it is instructive to look at the results for the two disciplines in the first ERA assessment (ARC, 2011a). For the four universities assessed in Forestry Sciences, two received ratings of 4 (the second highest rating, which places the unit at "above world average"), and the other two received ratings of 3 ("at world average"). In contrast, for the eight universities assessed in Design Practice & Management, four received ratings of 3, while the other four received only a rating of 2 ("below world average"). Clearly ranked outlets were not the only measure to influence the assessment panels. Either that, or the Design Practice & Management community only gave an A or A* ranking to journals they did not publish in!

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