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Editorial 28(4)

Bibliometrics: Google's newest initiative

In AJET Editorial 28(2) [1] we advised that "... it is now important to monitor all of the bibliometrics available to us, to help fade the collective memory of *Tiers*, and avoid the scenario identified in Editorial 27(6): "Is AJET forever locked into an 'underground' Tier B?" [2] ...". Now Google's newest initiative adds a substantial newcomer to the list of bibliometrics to monitor. Under the intriguing dateline "Sunday, April 1, 2012 | 3:00 AM", Google published an announcement about its entry into the contemporary bibliometrics scene, *Google Scholar Metrics* [3].

Google headlined the key purpose rather than the particular bibliometric they have chosen to calculate and publish:

Most researchers are familiar with well-established journals and conferences in their field. They are often less familiar with newer publications or publications in related fields - there're simply too many! Today, we're introducing Google Scholar Metrics: an easy way for authors to quickly gauge the visibility and influence of recent articles in scholarly publications. [3]

Google's statement of key purpose for its entry into bibliometrics surely is more soundly grounded than some other statements of key purpose, such as that implied in the ill-fated *Tiers for the Australian Ranking of Journals* [4], which sought to focus upon 'journal quality' as some kind of surrogate for the quality of research work by individual researchers. Very appropriately, Google limits the *Google Scholar Metrics* reach to gauging "... the visibility and influence of recent articles in scholarly publications".

Google has chosen to calculate and publish *h-index*, specifically "five-year h-index and h-median metrics" [5]. We recommend that you read Google Scholar's excellent definitions [5], but in brief the h5-index and h5-median are h-index calculations for articles published in the last five complete calendar years, that is 2007-2011 for the current (1 April 2012) edition of *Google Scholar Metrics*. A longer and helpful outline of the origins of the h-index is given in *Wikipedia* [6].

Google Scholar Metrics does not compile and present rankings, other than its "top 100 publications in several languages" [7], but rankings tables may be constructed from a series of individual searches. Table 1, constructed from searches for individual



<http://www.ascilite.org.au/index.php?p=conference>

journals, lists those included in our last rankings table, namely Table 1 in Editorial 28(2) [1], which was based upon *SCImago Journal Rank* [8]. The new table presented below includes columns for the SJR, SJR h-index and the ARC's *Tiers 2010* [9] to facilitate cross-referencing. A ranking based on the Thomson Reuters *Impact Factor* was provided in Editorial 27(6) [10].

Table 1: *Google Scholar Metrics* for some educational technology journals
Rank order by GSM h5-index (data published 1 April 2012)

Rank	Title	GSM h5-index	GSM h5-median	SJR 2011	SJR h-index	<i>Tiers</i> 2010
1	Computers & Education	58	85	0.056	46	A
2	British Journal of Educational Technology	36	50	0.045	29	A
3	Journal of Computer Assisted Learning	31	44	0.051	33	A
4	Educational Technology Research and Development	28	40	0.043	37	A
5	Educational Technology & Society	27	37	0.038	25	B
6	Australasian J. of Educational Technology	23	32	0.041	9	B
7	Instructional Science	21	33	0.042	30	A
8	ALT-J (Research in Learning Technology)	13	30	not avail.	not avail.	A
9	Technology, Pedagogy and Education	13	15	0.030	4	B
-	Journal of Technology and Teacher Education	not avail.	not avail.	not avail.	not avail.	B

Notes: a. To obtain GSM h5-index and h5-median for each journal, use searches having an appropriate form for each journal, e.g. http://scholar.google.com/citations?hl=en&view_op=search_venues&vq=australasian+journal+of+educational+technology (GSM's disclaimer concerning its data merits reiteration: "Dates and citation counts are estimated and are determined automatically by a computer program.").

b. The h5-index is the largest number h such that h articles published in 2007-2011 have at least h citations each. See [5] for full definitions.

c. SJR data and SJR h-index data (columns 5 and 6) were obtained from the search http://www.scimagojr.com/journalrank.php?area=3300&category=3304&country=all&year=2011&order=sjr&min=0&min_type=cd

d. *Tiers 2010* data obtained from John Lamp's IS Pages :: ERA Journal Ranking. <http://lamp.infosys.deakin.edu.au/era/?page=jmain>

One general conclusion from Table 1 is perhaps quite obvious: it is now necessary to monitor a number of bibliometrics and sources of rankings tables. Very likely it is inappropriate to regard any one ranking as the most important, and it is also inappropriate to quote only the "best" ranking for a particular journal. On the positive side, the emergence of new providers of bibliometric data helps authors, editors, publishers and research group leaders to become less reliant upon subjective opinions about journals and journal performance indicators. To paraphrase *Google Scholar Metrics* [3], the emergence of new providers of bibliometric data improves our ability to "quickly and more objectively gauge the visibility and influence of recent articles in scholarly publications".



Moodlemoot au2012
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Looking at Table 1 from a perspective analogous to that of a gold prospector searching for the richest lodes to explore next, three 'prospects' seem to stand out as worthy of flagging for future research attention in the field of scholarly publishing. These are, firstly the emergence of a new generation of source countries for influential or highly cited articles, secondly the possibility of relating changes in the rankings of journals to their willingness to accommodate a new generation of authors, and thirdly probing into changes in views about how the selection of articles for publication should be related to an article's perceived 'quality of research'.

However, there are a number of "howevers"! To begin with just one "however", one commentator on the launch of *Google Scholar Metrics* drew attention to a concern [11] that coincidentally became very pertinent for AJET, for a period of nearly 5 months:

There are other concerns with Google's approach. For one, only journals meeting Google's inclusion criteria [Ed: See 12] can participate in Scholar Metrics. These inclusion criteria are largely technological in nature, and can change with the wave of an engineer's hand, as happened to multiple journals last summer. Untangling a new Google edict can take months, during which time it seems a journal would be delisted from Scholar Metrics. While being delisted from *Web of Science* [Ed: See 13] a measure of some sort of malfeasance, being delisted from Scholar Metrics could be due to some misapplied headers or robot.txt [Ed: correct name is robots.txt] file. [11]

It's the last sentence that is the pertinent bit. On 13 December 2011, ascilite's website developed a problem with a 'misapplied' robots.txt file. In effect, from that date the ascilite website contained a 'robots.txt' file at root level that instructed search robots, such as Google's 'Googlebot', to not read any files on the site. Regrettably, the need for investigation and corrective action was not properly understood for some months. On 26 April 2012 I advised AJET's Editorial Board and Management Committee that:

There is currently a problem with Google and Google Scholar, which I'm endeavouring to resolve. In the last few months numerous earlier AJET records seem to have been 'forgotten' or 'lost' by Google, and new records are not appearing for current issues. The cause for this is unknown, but I'm pursuing it as a high priority. Our current set of metatags adopted in 2010 for AJET 26(5) and subsequent issues are scrupulously compliant with Google's Guidelines (<http://scholar.google.com.au/intl/en/scholar/inclusion.html>) [Ed: 12] and seemed to function as expected during 2011. [14]

On 29 April 2012 I advised AJET's Editorial Board and Management Committee that I had identified the problem as a 'rogue robots.txt' file and that corrective action had been initiated by email Date: Thu, 26 Apr 2012 14:16:26 +0800:

User-agent: *
Disallow: /

These lines instruct search robots such as Googlebot to NOT read any files within www.ascilite.org.au, thus denying Google searching of AJET and ascilite Conference Proceedings (<http://scholar.google.com.au/intl/en/scholar/inclusion.html>), and also over time leading to Google's discarding of previously recorded data from www.ascilite.org.au. [15]



Hobart, 2-5 July 2012. <http://conference.herdsa.org.au/2012/>



4th IEEE International Conference on
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IEEE Computer Society and IEEE

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<http://t4e.iit.ac.in/>

The removal of the file <http://www.ascilite.org.au/robots.txt> was actioned on 4 May. By about sometime on Monday 7 May the AJET home page had been 'crawled' by Googlebot, and some more data appeared on Tuesday 8 May. However, I regret that authors will have to be patient waiting for Google's record of their work to be restored. As Google advises [12]:

Keep in mind that changes that you make on your website will usually not be reflected in Google Scholar search results for some time. New papers are normally added several times a week; however, updates of papers that are already included usually take 3-6 months. Updates of papers on very large websites may take several years, because to update a site, we need to recrawl it - the time it takes to recrawl a large site is usually limited by the speed at which the target website is able to deliver content to the search robots. [12]

Now, "usually takes 3-6 months" could be a reasonable time frame, though of course I have attempted to hasten matters by lodging a "request manual configuration of your website" with Google Support [16]. If Google's full coverage of the AJET website is restored quickly, AJET and ascilite could have been tempted to consider a 'discreet silence' about the unraveling of the problem. After all, during the period 13 Dec 2011 to 4 May 2012 I did not receive any queries from authors or readers about AJET's Google presence (though I do not know whether ascilite Conference Conveners received any queries). However, somewhat ironically, the launching of *Google Scholar Metrics* now makes a full explanation mandatory. To understand this outcome, we need to explore further into the capabilities of *Google Scholar Metrics*. This capability (or 'affordance') is described by *Google Scholar Metrics* in the sentence, "... if you wish to see which articles in a publication were cited the most and who cited them, click on its h-index number to view the articles as well as the citations underlying the metrics." [5]

To illustrate, view the list of AJET's 23 articles that contributed to h-index = 23 during 2007-2011 [17]. Note that 22 of the 23 articles have links provided, not to the AJET article, but to the ERIC database record - which omits the original URL, and also changes all titles of articles from sentence case to title case! The one article that ERIC's robot or my manual postings to ERIC missed has no link to the full text or abstract. To put a positive spin on this, let's be grateful to ERIC for their coverage (in the past, we have been a little bit critical about ERIC [18], [19]). However, the negative spin side is that *Google Scholar Metrics* will not update its 1 April 2012 publication of h5-core data, as indicated in its bolded sentences, "Scholar Metrics are based on our index as it was on April 1st, 2012. For ease of comparison, they are NOT updated as the Scholar index



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[http://eportfoliosaustralia.wordpress.com/
conference/conference-eac2012/](http://eportfoliosaustralia.wordpress.com/conference/conference-eac2012/)

is updated." [5]. Therefore it is best that the explanation be given now, without waiting for the inevitable questions to arise from authors and readers. Having conceded that, we can revert to the positive spin, let's be 'confident', or at least 'hopeful', that the 2013 edition of *Google Scholar Metrics* for 2008-2012 will provide all AJET and ascilite Conference authors with proper direct links to their articles.

I end with my sincere apology to all parties:

I'm deeply sorry that I did not follow up earlier, when in February I noted that AJET 28(1) was not appearing in Google Scholar as expected. Being intensively engaged in overcoming the review process backlog from 2011, and the increased frequency of issues, I was not putting enough time into routine monitoring - though a 'rogue robots.txt' is the last thing one would expect to find. [15]

Roger Atkinson

AJET Production Editor (retirement pending)

Endnotes

1. AJET Editorial 28(2): Bibliometrics revisited.
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http://www.arc.gov.au/era/tiers_ranking.htm (rankings are available from http://www.arc.gov.au/era/era_2010/archive/era_journal_list.htm). The *Tiers* rankings were A*, top 5%; A, next 15%; B, next 30%; and C, bottom 50% of journals.
10. AJET Editorial 27(6): *Impact Factor* revisited: AJET ranking improved.
<http://www.ascilite.org.au/ajet/ajet27/editorial27-6.html>

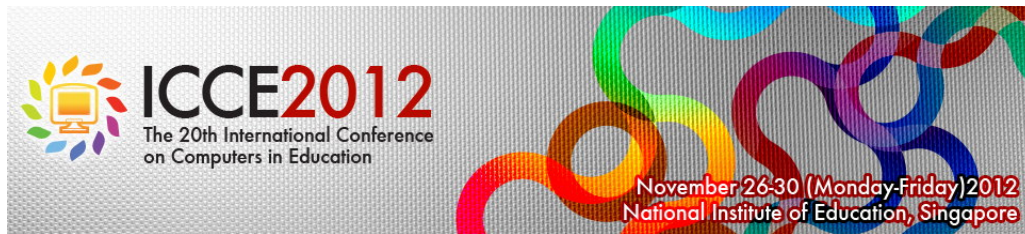


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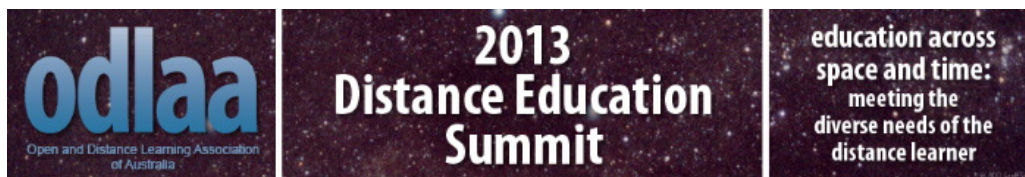
Perth, 2-5 October 2012

<http://acec2012.info/>



Asia-Pacific Society for Computers in Education and Nanyang Technological University
Singapore, 26-30 November 2012. <http://www.isl.nie.edu.sg/icce2012/>

11. Anderson, K. (2012). Google's new "Scholar Metrics" have potential, but also prove problematic. *The Scholarly Kitchen*, 24 April. <http://scholarlykitchen.sspnet.org/2012/04/24/googles-new-scholar-metrics-have-potential-but-also-prove-problematic/>
12. Google Scholar (2011). Inclusion Guidelines for Webmasters. <http://scholar.google.com/intl/en/scholar/inclusion.html>
13. *Web of Science* is a Thomson Reuters product which provides one avenue for accessing journal *Impact Factor* data for the journals that Thomson Reuters index.
14. AJET alerts email Date: Thu, 26 Apr 2012 12:11:08 +0800 from Production Editor to AJET 28(Special issue, 3) authors and editors, and AJET Editorial Board and Management Committee.
15. AJET alerts email Date: Sun, 29 Apr 2012 08:06:20 +0800 from Production Editor to AJET 28(Special issue, 3) authors and editors, and AJET Editorial Board and Management Committee. For some typical examples of robots.txt files, see <http://www.aace.org/robots.txt>, <http://www.aera.net/robots.txt> and <http://www.tandf.co.uk/robots.txt>. However, many journal websites do not use a robots.txt file.
16. Google (undated). Contacting Support - Google Scholar Help. <http://support.google.com/scholar/bin/request.py?>
17. http://scholar.google.com/citations?hl=en&view_op=list_hcore&venue=81fgngokqOUJ.20120401
18. AJET Editorial 23(2). Idle moment No. 18: ERIC. <http://www.ascilite.org.au/ajet/ajet23/editorial23-2.html>
19. AJET Editorial 25(1). ERIC indexing and abstracting. <http://www.ascilite.org.au/ajet/ajet25/editorial25-1.html>



Sydney, 4-7 February 2013. <http://www.odlaasummit.org.au/>