Peer-reviewed science from blogs: an option for the Brazilian growing interest in science?

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Research Blogging and Blog Ciência na Mídia (Brazil)

Introduction

The science blogosphere has significantly increased in recent years. The information gap that was traditionally fulfilled by science journalists and scientifically-curious laymen, has now a new protagonist: the scientist. Blogs are one of the most up-to-dated tools that scientists use to communicate their ideas to other scientists or to the general public (Bonetta, 2007). This scenario may result from incentives to scientists to engage with the blogosphere (Nature, 2009) and face its challenges, which turns into also a great opportunity to them (Kouper, 2010). Science blogs have a positive tendency for aggregation, mainly through blog platforms developed by respectful science magazines or through new tools that either allow a new system of science publishing (Akst, 2010) or value online peer-reviewed publication. Our study verified how peer-reviewed publications are disseminated through the science blogosphere via Twitter, a recently created social media tool. We discussed the results in the context of increased interest by the Brazilian public for science, revealed in 2010 in a research sponsored by the Brazilian Ministry of the Science & Technology.

Background

ResearchBlogging.org (RB)[44] is a website that aggregates peer-reviewed research posts from several science blogs in seven different languages[45]. It was created in 2007 by science blogger Dave Munger[46] and developed in collaboration with Seed Media Group. It is a useful source for readers interested in cutting-edge research and to those who praise comments and explanation of science done in first-hand, by scientists and experts in their respective fields. In addition, given that the intrinsic structure of the web makes it difficult to make a clear distinction between scientific and pseudo-scientific content, RB is a tool to vouch academic research and avoid the spread of pseudoscientific content. The site now has over 1,700 registered blogs, with over 18,000 posts about peer-reviewed research on subjects ranging from Anthropology to Zoology. The site also collects posts from 54 Portuguese-speaking blogs, and compiles 706 posts in Portuguese until now (January 2011). This number makes Portuguese the third most popular language in the RB following

[44] http://researchblogging.org

[45] English, Spanish, Portuguese, German, Chinese, Polish and Italian

[46] Dave Munger's webpage: http://wordmunger.com

Spanish and English. The site also has Twitter feeds in each language, and Portuguese is the second most popular feed after English, with 338 Twitter followers.

Purpose

This pilot, descriptive, exploratory study aimed to verify the embodiment of peer-reviewed papers published by indexed journals, by posting and/or commenting throughout the Brazilian science blogosphere, that were routed to the aggregator of the Research Blogging platform in Portuguese (RB-PT). The collected data was shared by social media tool Twitter through the profile @ResearchBlogsPT[47], which automatically publishes on Twitter every new RB-PT post.

Methods

We performed an exploratory study, with a quantitative approach to guide the tweet search by the profile @ResearchBlogsPT. The search was performed in January 2011 and included the entire available period of the related profile in Twitter, considering the tweets from 02/June/2009 to 31/January/2011. Our eligibility criteria included only tweets from @ResearchBlogsPT which linked to scholarly papers published on indexed journals. Re-Tweets (RT), repeated tweets, notices or tweets without links to scientific posts were excluded. Posts with references to books were also disconsidered. We then hand-searched reference lists from retrieved tweets. Data were summarized and each tweet classified according to six categories: Blog, Link, Date, Journal, Area Covered and Impact Factor.

Findings

Table 1. Number of Blogs, posts, cited papers and journals

Blogs	Posts	Cited papers	Journals
52	571	919	404

[47] http://twitter.com/ResearchBlogsPT

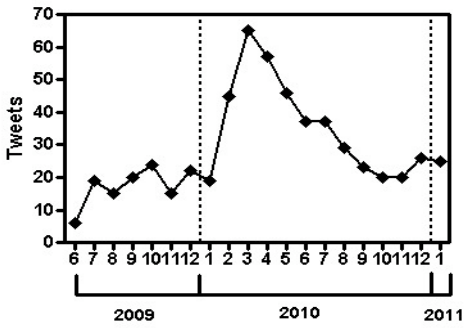

Figure 1. Number of tweets per month

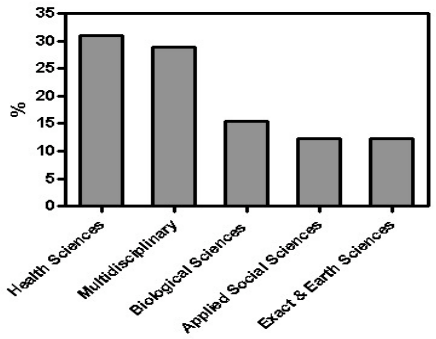

Figure 2. Journal's subject areas

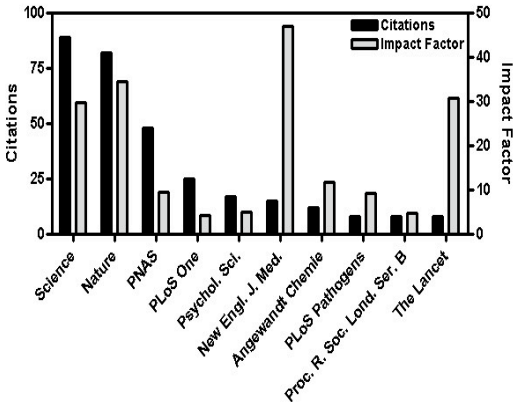

Figure 3. Journals citations X Impact Factor

Discussion

Links in blogs can present an array of meanings (Nivakoski, 2009), and specially in science blogs links may refer to scholarly articles commented and explained by the blogger, as is the case of RB-PT. During the analyzed period, the Twitter profile @ResearchBlogsPT shared 571 tweets from posts by 52 blogs, which cited and linked 919 scientific papers published in 404 different journals (Table 1). The most covered subject area was the

Health Sciences, with 285 articles, followed by the Multidisciplinary area, with 266 papers (Figure 2). Biological Sciences had 142 citations, while the Applied Social Sciences and the Earth Sciences had 113 references each. Most cited journals are, in general, those with high impact factor (Figure 3), which may inform that peer-reviewed publications through blogs favor journals with more prestige. Regarding the distribution of these publications (Figure 1), there was an increase in tweets in the same months of the investigated year, when we compare with thew previous year. The most active period (February-April 2010) may be related to Research Blogging Awards 2010, since nominations started early February and winners were announced early March 2010.

Conclusion

Research Blogging acts as an important filter for peer-reviewed science blog posts that would be missed among thousands of other blog posts normally tagged as "science". The social media tool Twitter proved to be useful for sharing posts, contributing to science dissemination (Mandavilli, 2010), while also serving as a repository of posts' links. In a context of growing science interest of the Brazilian society associated with increased access to technology, the use of websites like Research Blogging and powerful social media tools such as Twitter may allow a significant impact in science dissemination.

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