Advocating for Scholarship: Why Open Access?

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The editors of the Journal for International Counselor Education have taken the decisive step to make this publication an “Open Access” journal—freely available to all readers with internet access. This article will set the context for choosing open access publishing in the current scholarly communication environment. Numerous factors have changed the face of scholarly publishing, creating an unsustainable economic model for print and subscription journals. Obstacles such as evaluation traditions in higher education must adapt as creators and users increasingly demand open access to scholarship online. Timely realization of the opportunities and benefits of the open access model depend upon proactive approaches by faculty scholars.

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An old tradition and a new technology have converged to make possible an unprecedented public good. The old tradition is the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment, for the sake of inquiry and knowledge. The new technology is the internet. The public good they make possible is the world-wide electronic distribution of the peer-reviewed journal literature and completely free and unrestricted access to it by all scientists, scholars, teachers, students, and other curious minds. Removing access barriers to this literature will accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge. (Chan et al., 2002, ¶ 1)
The shifting landscape of scholarly communication confronts even those most reluctant to embrace change. The move from print to digital publishing is accelerating, due in large part to user demands as well as to the increasing costs of print publications including journals. New publishing formats are just one indicator of an essential change in the very nature of scholarly discourse, which presents both opportunities and challenges to producers and consumers of scholarly content. Digital natives, those born after the advent of the internet, have high expectations for easy access to information and only minimal comprehension of and tolerance for barriers presented by ownership of intellectual property. All users are facing a “river of knowledge” (Odlyzko, 2002) and will favor utilizing the materials that are most accessible, rather than those that may be more stringently vetted but are locked behind toll gates of subscription costs (Harnad, 2003; Lawrence, 2001). The opportunities and demands for digital publication are increasing the pressure on unsustainable publishing models that control scholarly content as a source of income, a model that has been used by commercial and society publishers alike. An additional obstacle to moving forward with a more open mechanism for dissemination of scholarly work has been the higher education system of promotion and tenure with its emphasis on the prestige of individual journals. The response from the global scholarly community—to both the barriers and demands for open access—has been to establish high-quality electronic journals and develop alternative approaches to evaluating the impact of a scholar's work. We would like to set a context for the editorial decision to utilize the open access (OA) model of electronic publication by providing an overview of the development and current status of the relevant issues.

Scholarly Communication

The first question to address is what is scholarly communication? Briefly, scholarly communication is the creation and dissemination of knowledge. To elaborate, scholarly communication can be defined as the formal and informal processes through which information or research produced by scholars is created, evaluated, disseminated, organized, accessed, used, and shared. With this in mind, scholarly communication should be thought of as a process or cycle with many different stakeholders.
Traditionally, the process involved scholars conducting research (broadly construed), writing about their work, and submitting this to publishers for dissemination. Publishers provided the system for peer-review, editing and distribution. Libraries played a role by acquiring this information from publishers, organizing the information, and providing access to it for other scholars, students, and the general public.

Although this model sounds straightforward, there are three specific issues that have arisen over the last few years. The first issue generally revolves around the stakeholders involved in the scholarly communication model. Scholars begin the process with their research and creation of knowledge. Faculty members at universities are paid salaries which come partially from taxpayers or grants so theoretically these funders have an investment in faculty research and publication. For faculty at most institutions of higher education, they are required to publish in order to stay employed—often a compelling factor for their scholarship. Colleges and universities share in any recognition generated by faculty scholarship, which in turn helps them recruit students and faculty and get grants and other sources of funding.

Before the advent of the Internet, faculty relied on society or commercial publishers for the distribution of their scholarly work. In most cases, scholars gave away this content, asking for no monetary return, in exchange for a package of services which included peer review, editing and print publication. Although some costs accrue from managing the review and editing process, the actual work is largely done voluntarily, as a service, by other scholars. Publishers have also required the restrictive and exclusive use of this content in order to guarantee income from its distribution; therefore, authors were required to transfer their copyright. Publishers sell the finished product, via journal subscriptions or society membership fees, to the general public, individual subscribers (usually faculty), and libraries. Institutions of higher education often pay twice for the research, initially by paying salaries of faculty and then by subscribing to the journals where their work is published.

The second issue with the scholarly communication model deals with the consolidation and commercialization of traditional publishing outlets. The marketplace for scholarly publishing has been increasingly characterized by high costs and above average rates of inflation. Commercial publishers have aggressively expanded market control through acquisitions,
mergers, and the purchase of individual journals from scholarly societies, leaving fewer but more powerful players in the field. Commercial publishers routinely charge more for their products (e.g., journals) than scholarly societies or university presses. When societies sell their journals to commercial publishers, the cost of the journal typically increases. The advent of and demand for electronic access to scholarly work has challenged print publishers to adapt their economic model. Even though digital production offers significant cost savings, publishers have been reluctant to relinquish the stream of money generated by print publications. Commercial publishers have increased the availability of online information, but tie it to the continuation of print subscriptions, charge a higher price for the dual access, or levy additional fees for electronic access to the content.

The final issue with the traditional scholarly communication model is that library budgets have not been able to keep up with the price increases and inflation rates for journals. Over the past several years, library budgets have either decreased or remained flat. This has been exacerbated by the current global economic crisis. This growing gap between available funds and costs results in libraries purchasing fewer books, journals and other resources and restricts access to output for scholars. Universities’ ability to maintain, much less increase, the breadth and depth of the scholarly materials it makes available through its libraries is rapidly eroding.

**Economics of Scholarly Publishing**

The scholarly communication market in its current state is economically unsustainable. The main issues with the scholarly communication process relate to the scholarly communication model itself, the commercialization of scholarly publishing, and decreasing or flat library budgets. All have an economic impact on scholarly communication. In his analysis of the current model for scholarly communication, Van Orsdel (2009) notes that it is based on a gift economic model. That is, authors give away their intellectual creations for free in exchange for awards, such as promotion and tenure, grants, and employment at highly regarded universities. Libraries are the primary consumers that purchase the created work. There is no direct connection between the supplier (faculty) and consumer (library); this disconnect creates a market that is not responsive to price pressures. As a
result, journal prices can rise without any threat of cancellation and out of proportion to the value of the product.

Another economic aspect of the scholarly communication model relates specifically to the commercialization of scholarly publishing. Commercial publishers have aggressively sought to consolidate and control the scholarly publishing market through acquisitions of individual journals from scholarly societies and mergers with other publishing companies.

The scholarly communication market can be divided into for-profit and non-profit publishers (Van Orsdel, 2009). For-profit publishers include such recognizable names as Elsevier, Wiley, Taylor and Francis, and Springer. Non-profit publishers are usually either societal publishers and/or university presses. An analysis of journal production cost reveals a huge gap between these two groups of publishers. The cost of producing a journal article for a non-profit publisher is $730; whereas, the commercial cost is $3,400. Although still keeping their prices substantially lower than for-profit publishers, there is evidence that even non-profit publishers have been taking advantage of the system by increasing journal prices beyond what is needed to recoup costs and just funneling the extra profit into non-taxable overhead. Commercial publishers typically employ extensive marketing and sales staff, which accounts for some of this disparity, but profit margins for some large publishing houses have been in the 40%-50% range in recent years, eliciting the charge of predatory pricing from some critics (Clarke, 2007).

Further analysis, in terms of cost relative to value of the journals, shows unexpected results. Journals from for-profit publishers account for approximately 91% of academic libraries’ journals budgets, compared to 9% of that budget spent on journals from non-profit publishers. When looking at the quality or value of a journal, as measured by citation patterns, studies show that 62% of all citations are from journals published by the non-profit sector, compared to 38% of citations that come from the for-profit journals (Van Orsdel, 2009). This is a large disconnect between value and cost.

Specific evidence of excessive costs and high rates of inflation in the scholarly communication marketplace is profuse. According to data from the Association for Research Libraries, between 1986 and 2005, the average cost of serials increased 186%, while the consumer price index for this period increased 78%. Journal prices have increased an average of 9% per year, while the rate for the consumer price index has been 3.4%.
The economic crisis in scholarly publishing created by high prices, decreasing library budgets, and consolidation of the print publishing marketplace, in conjunction with pressures for increased electronic access, have prompted many to propose new economic models.

One major advocate for reform in the scholarly communication marketplace is the Scholarly Publishing and Academic Resources Coalition (SPARC, http://www.arl.org/sparc/). Acknowledging that publishing and the accompanying economic models are in transition, they are strong proponents of OA and offer an overview of alternative income models (Crow, 2009). Writers like Velterop (2008) insist that whatever model emerges for the future, the income stream must be decoupled from publishers taking control of authors’ content. The issue of copyright is a key consideration for many when considering the future of scholarly publishing.

**Copyright—Then, Now and in the Future**

Even with the heated debates about intellectual property that have emerged in the wake of the Internet, little conversation has focused on those aspects specific to scholarly publishing. The notion of copyright is one that many researchers/writers consider somewhat peripheral to the central goal of sharing their work in order to have an impact on their respective field and beyond. As a result, comprehensive understanding of the process and proactive management of copyright for their work has been neglected. In the future, scholars will probably look back in wonder at what they gave up in order to share the fruits of their labor! The traditional model of scholarly publishing, distinct from other forms of writing or artistic creation, has been based almost exclusively on a “gift economy” where the researchers, teachers, and practitioners created work and gave it away to the publishers, because they wanted other researchers, teachers, and practitioners to read/hear/see it, cite it and use it. Their “payment” came not from royalties in most cases, but from the benefits that accrued to one who was recognized by professional colleagues. Harnad (2003) argues that, in order to clearly understand the issues, we must make a clear distinction between this small “give-away” portion of the overall publishing world and the much larger “non-give-away” arena.

The desired protection in the world of scholarly publishing is against theft of authorship (plagiarism) as opposed to theft of content (piracy). In
other words, while scholars want other people to use their content they want appropriate credit. This calls for a different copyright model from the one which governs non-give-away publishing. Unfortunately, the for-profit model has governed scholarly publishing for decades. Publishers are struggling to adjust to a digital world that makes such ownership untenable. In this anomalous give-away economic model, creators transferred control of the content to publishers for purposes of dissemination, but in the process also surrendered the intellectual property itself. Publishers demanded exclusive control over future use of the content—the right to copy the content—unless they granted express permission to the creator to re-use their own intellectual property. Although “fair use” provisions were often employed to re-use one’s own content in an educational setting, the fact remained that the intellectual creation no longer belonged to the creator.

Willinsky (2007) believes that the “spirit of copyright law” is actually better served by the OA model of publishing than by the commercial model. In the pre-digital world, it seems that content creators had no other options, and in the case of professional society journal publishers, this relationship probably had more the flavor of a collegial sharing of information rather than an outright donation. But as the publishing industry consolidated, and society publishers increasingly turned to commercial publishers to produce their society journals, these relationships between content creators and publishers became more formalized and targeted to long-term “asset management” (Willinsky, 2007), usually to the detriment of the content creators and consumers. Paradoxically, this give-away model, which was intended by scholars to increase dissemination and impact, has in fact limited the availability of scholarship and thereby potentially decreased its impact (Harnad, 2003; Wallace, 2008). As libraries are forced to reduce the number of journal subscriptions in response to rising prices, broad access has been available to only the wealthiest institutions and countries. Thus information may not reach and serve those most in need.

The promise of electronic publishing, and OA models in particular, is that the ability to share scholarly work will no longer be controlled by commercial publishers who are focused on profit rather than dissemination (Willinsky, 2007). This is not to say that publishers will disappear from the scholarly publishing world. Scholars will still value the credibility and quality control that comes from the peer review process and publishers can create new models that place a value on this function. Given that reviewers,
as well as content creators, typically donate their time, estimates are that scholarly content can be peer reviewed for about 10-30% of the current cost of producing an article (Harnad, 2003). All agree that an alternative economic model for scholarly publishing, which does not rely on the control of content, is as inevitable as the shift to digital publishing (e.g., Velterop, 2008; Wallace, 2008; Willinsky, 2007). The issues around copyright are simply “barriers of habit” left over from the print era when dissemination was the funding source for publishers (Velterop, 2008).

To help shape this new digital world of scholarship, it is crucial for scholars to be proactive managers of their copyrights. When scholars create a product, copyright protection automatically accrues to the fixed work, e.g., a manuscript for an article (print or electronic). Scholars are not required to register or fill out forms to come under the umbrella of copyright protection. If scholars create work for a fee, typically, the copyright goes to the employer/contractor; however, under the “academic exception...scholars are allowed to retain the copyright for their research” (Willinsky, 2007). The University of Maryland’s directory of campus policies (available at http://www.umuc.edu/distance/odell/cip/links_policy.shtml) presents this process clearly. This does not apply with a patentable device or process in which the university has made a substantial investment beyond salary; then the university will make a claim. Joint authors each have equal and full copyright protection. Copyright actually refers to a package of rights which include the following:

- Copying/reproduction of the work either in print or electronically for distribution
- Commercial distribution
- Creation of derivative works such as adaptations and compilations
- Performance and display
- Authorization for others to exercise any of these rights

Because copyright is actually a bundle of rights, authors can “unbundle” them when signing agreements with publishers, and specify which right(s) they will transfer and which they will keep. Several excellent sites have been created which offer addendums to copyright transfer agreements (e.g.,
SPARC Author Addendum: [http://www.arl.org/sparc/author/addendum.shtml](http://www.arl.org/sparc/author/addendum.shtml). In these transitional times, such documents seek to establish a balanced distribution of rights that allow creators to use, develop, and receive proper attribution for their work in educational and scholarly pursuits; while publishers are granted the right to publish and disseminate that work with appropriate remuneration and attribution for that effort.

Such amended agreements can also form the basis for OA publication, which promotes the discoverability and availability of scholarly work by eliminating access barriers for users (subscriptions). This doesn’t mean authors give up control of their creations. Online licensing of content, through models similar to Creative Commons ([http://creativecommons.org](http://creativecommons.org)), guides authors to legally specify ownership while promoting distribution of their work.

Writers like Wallace (2008) offer additional reasons to stop signing restrictive and exclusive copyright transfers. Increased visibility and decreased marginal cost of digitally published scholarship offers new and potentially profitable niche markets for even the most esoteric content. At present only publishers stand to benefit from this, charging upwards of $30 per article online. Wallace advocates taking a lesson from the recent strike by the Writers’ Guild of America and negotiating profit sharing agreements from use and re-use of the material. If authors are philosophically committed to wide dissemination as the primary goal rather than profit, then they should target publications that offer OA or publish under a Creative Commons license to protect their content. He also cautions that copyright restrictions are growing through legislation such as the Digital Millennium Copyright Act (DMCA) and the Copyright Term Extension Act. The DMCA gives greater power to copyright holders to limit the use of materials, even before violation of copyright is proven. For example, a university could be legally ordered by a publisher to “take down” a document whose copyright was owned by the publisher, even if there was a good case for “fair use” of the material. More radical proposals advocate subverting the copyright system altogether, noting that anyone who wants to can post their content online in forms not controlled by the publisher, such as pre-prints (Harnad, 2003). However the issues and economic models in electronic publishing evolve, Willinsky (2007) concludes, “It no longer makes sense, if it ever did, for researchers to transfer the copyright for their
writing to journal publishers in exchange for its publication” (Introduction section, ¶ 3).

**Understanding the Open Access Movement**

Open access involves making peer reviewed research available free of charge to anyone who needs it in full-text format. The OA movement began with the *Budapest Open Access Initiative* in December 2001. This initiative proposes to accelerate progress internationally of making research freely available using the Internet (Chan et al., 2002). Since the inception of the Budapest Initiative, the OA movement has gained substantial momentum globally.

The OA movement involves two main resources: OA journals and OA archives. Open access journals are peer reviewed journals published online, free of charge. Open access archives allow scholars to deposit their research in an online, central database freely accessible to anyone. Examples of OA archives include institutional repositories (IR) and centralized archives. Institutional repositories are typically online storehouses for researchers at a specific university or research organization which allow them to deposit scholarly work, such as books, journal articles, conference papers, pre-publications, and post-publications. Institutional repositories generally provide an internal search function and the contents are also searchable by Web tools such as Google. Centralized archives are similar to IRs, but are created for specific disciplines or subjects, and are open to scholars from any institution, for example the Scientific Commons or the Social Science Research Network.

**Benefits of Open Access Journals**

There are numerous advantages of OA journals. Rigorous peer-review and quality control processes that are used for print journals can be employed. Publishing is more timely and efficient compared to traditional print publications. Through inclusion in commercial or free indexes (e.g., *Google Scholar*) discoverability is greatly enhanced, thus increasing visibility and potential impact of the work. Several studies have found higher citations rates associated with OA publishing. Access is unrestricted, allowing anyone with Internet connections to use the information. These factors contribute to
the general social good, but also specifically benefit scholarship by reducing redundancy and fostering interdisciplinary thinking and collaboration. Researchers keep copyright of material for use in teaching and research. Open access facilitates conformity with federal law requiring that research conducted using NIH funds be made freely available. Other agencies, such as the NSF will likely soon follow this model.

Objections from scholars are often based on misconceptions about quality of OA journals. As with traditional print journals, OA publications should be evaluated on their peer review processes, editorial boards, and quality of articles. Emerging tools for evaluating online journals will be discussed in a later section.

**Benefits of Institutional Repositories**

An IR allows a University to showcase the research of its faculty. Content is searchable by Web tools and freely available to anyone with an Internet connection, contributing to discoverability and use. A recent study of our own UNLV faculty showed that almost half report beginning their research with general Web search tools like Google Scholar, not only for ease of use, but also for the cross-discipline perspectives that results can offer. As with OA journals, this increased visibility means research productivity can be more efficient and effective, within and across institutions. Opportunities for intra-institutional collaboration are increased when a scholar can quickly determine what other faculty are investigating. Additional benefits include the archival and storage functions which preserve content in a central location, typically organized by subject area or research community. Attracting new faculty is facilitated when they can determine what the research strengths of an institution are by readily accessing the work of the institution’s current faculty.

**Current Initiatives**

At both national and international levels, there have been numerous initiatives and mandates related to scholarly communication and OA. At the national level, the National Institutes of Health (NIH) passed an OA mandate. According to the NIH (n.d.) Public Access site:
The NIH Public Access Policy ensures that the public has access to the published results of NIH funded research. It requires scientists to submit final peer-reviewed journal manuscripts that arise from NIH funds to the digital archive PubMed Central upon acceptance for publication. To help advance science and improve human health, the Policy requires that these papers are accessible to the public on PubMed Central no later than 12 months after publication. (¶ 1)

At the international level, a study by the Joint Information Systems Committee in England estimates British universities would save around $80 million (British pounds) by shifting to an OA publishing system (Houghton, et al., 2009, p. XVII). The study suggested that resources used for current subscriptions could be shifted to publishing and disseminating journals. The study also concluded that an additional benefit of an OA system would accrue to business and industry as the result of greater accessibility to research findings.

Institutions of higher education are starting to require their faculty to post research online as well. Harvard University’s Faculty of Arts and Sciences was the first to craft and adopt this type of mandate in 2008. According to Stuart M. Shieber, a professor at Harvard, this mandate “should be a very powerful message to the academic community that we want and should have more control over how our work is used and disseminated” (Guterman, 2008, ¶ 3). Stanford and other universities have created similar mandates. One particular meeting, sponsored jointly by the Association of American Universities, Association of Research Libraries, the Coalition for Networked Information and the National Association of State Universities and Land Grant Colleges, resulted in a report, “The University’s Role in the Dissemination of Research and Scholarship” (Hahn, Lowry, Lynch, Shulenberger, & Vaughn, 2009). The participants included university provosts, vice-provosts, librarians and directors of press from several institutions including MIT, University of Michigan, Duke University, Harvard, and Columbia. The report identifies actions each university should take to expand the dissemination of the university community’s research and scholarship, which includes OA publishing.
Publisher Initiatives

For-profit publishers have been slow to respond to the OA movement. However, some for-profit publishers are experimenting with new business models, called hybrid OA journals, which include a mix of OA and restricted content. According to Bailey (2007), Oxford University Press created an Oxford Open Initiative which offers authors some choices in OA options with moderate fees. If an author’s institution subscribes to the journal or if the author is from a developing country, the author’s fees may be reduced. With the global interest and increase in counselor education worldwide this has direct implications for counselor education.

Another example of a for-profit publisher experimenting with OA is Springer, a commercial publisher in the science, technology and medicine (STM) fields. Springer reached an agreement with the University of California libraries to allow articles written by University of California faculty to become OA once the article is published in a Springer journal. A portable document format (PDF) of the article will be deposited in the University of California’s digital repository. Springer also became the largest OA publisher when, in 2008, they acquired BioMed Central, a pioneer in OA publishing (Van Orsdel & Born, 2009).

Alternative Scholarly Movements

In addition to moving to OA modes of publishing, faculty and researchers have embraced alternative ways to openly share scholarly information through collaboration and communication. Significant technological advances are facilitating the evolution of scholarship toward increasing use of new technologies, multimedia and online-only resources. One of the most significant new areas of scholarly communication involves the concept of making in-progress works available for review. The advent of social networking tools has increased local, national and global interaction among scholars. Van Orsdel and Born (2009) cited a 2008 report from Outsell (a market intelligence service) which found that a researcher’s use of social networking tools to communicate peer to peer, reduced barriers to access other scholarly works. This facilitates exchange of ideas and access to in-progress research.
Additional changes to the scholarly communication marketplace involve the shifting roles of scholars, who are becoming producers or publishers, rather than creators of isolated works (Kirchner, 2009). Scholars who use social networking tools to moderate discussion lists or to manage/edit personal or collaborative blogs and wikis become producers. Individual scholars also use open source software to start publishing OA journals. This means some of the functions historically relegated to publishers, such as managing the peer review process, have been taken on by individual scholars.

Scholarly communication is evolving as scholarly products take on different forms. In the past, scholarly products were traditionally journal articles, books or book chapters. Today, scholarly products take many forms including databases, datasets, simulations, specialized software or animation (Kirchner, 2009).

**Recognition and Evaluation of Digital Scholarship**

In addition to limited distribution channels historically available to scholars, another major factor supporting the dysfunctional relationship between scholars and commercial publishing is the promotion and tenure system in higher education. Faculty evaluations emphasize publications in *highly ranked* journals, which are largely owned by publishers utilizing a commercial model. This section will review the connection between traditional publishing of scholarly literature and faculty reward systems and also examine the pros and cons of current and emerging measures of scholarship quality.

One reward faculty members receive in exchange for publishing their scholarly work is recognition in their respective field. Publishing also translates into very real financial benefits. In a recent examination of faculty salaries at higher education institutions, Fairweather (2005) found a strong positive relationship between salary and the number of refereed publications across all types of institutions. Over time, he also determined that, at research universities and liberal arts colleges, each additional article published was worth more in 1998-99 than it was in 1992-93, suggesting the emphasis on and reward for scholarly publication was accelerating. Fairweather concludes, “Traditional scholarly productivity remains the strongest behavioral predictor of faculty pay” (p. 418).
Others have noted the scholarship bar has been raised in promotion and tenure considerations for newer faculty; an increased number of publications are required earlier in the faculty member’s career (Magnan, 2007; Wilson, 2001). “Prestige” or “rank” of a journal is a key consideration both when deciding where to publish and how to evaluate faculty scholarship (Seipel, 2003; Speier, Palmer, Wren, & Hahn, 1999; Wilson, 2001). One of the most commonly used metrics for evaluating faculty work, the journal impact factor, published annually by Thomson Reuters in *Journal Citation Reports* database, has been shown to serve as a criterion for awarding grants, hiring or promoting faculty, and awarding salary bonuses. The “publish or perish” mantra has evolved to “publish in a high impact factor journal or perish” (Monastersky, 2005).

According to its developer, Eugene Garfield (2001), journal impact factors (IF) were never intended to measure the quality of faculty scholarship. Nevertheless, IF is often used as a shortcut in lieu of more time-consuming calculations or as a proxy for critical evaluation when the reviewers are unfamiliar with specialized fields of work. The journal IF is derived in this manner: citations in a body of journals (roughly 7,000 science titles and 1,700 social science titles) are reviewed for the current year; the number of citations to articles published in journal X in the previous two years are tallied (this becomes the numerator); and this is divided by the total number of articles published by journal X in the previous two years (the denominator). The higher this ratio, the more prestige the journal is usually accorded. However, using this average number of citations per article as a measure of any individual article within a journal is statistically indefensible; the average tells nothing about the citation rate for any given article. Typically a small number of articles in a journal generate the majority of citations. For example, *Nature* found that 89% of the citations to their journal in a given year were generated by 25% of the papers for the relevant time period (Monastersky, 2005). Moreover, numerous problems with impact factors have surfaced including gaps in how the statistic is computed and multiple instances of journal editors manipulating the statistic (Monastersky, 2005; Rossner, VanEpps, & Hill, 2007). Such strategies include asking authors to cite articles from the journal, publishing review articles which generate higher numbers of citations at the expense of original research articles, and favoring those manuscripts which address “fashionable” high interest topics (Monastersky, 2005). The irregularities in
the calculation of the journal IF caused the editors of the pre-eminent OA journal *PLoS Medicine* to conclude that the process being used to rank journals is “unscientific, subjective, and secretive” (PLoS Medicine Editors, 2006, ¶ 8). Electronic publishing may well speed the demise of this particular estimate of individual scholarship and promote other more valid and reliable measures.

Numerous efforts have been made to develop metrics that correct for the failings of the journal IF. The *Scimago Journal Rank* ([http://www.scimagojr.com](http://www.scimagojr.com)) utilizes a larger and more diverse body of journal literature, the Scopus database, and offers, therefore, a “good alternative to the impact factor” (Leydesdorff, 2009). Unlike IF, this indicator has the advantage of being openly accessible. Another OA effort, the *eigenfactor*, is also produced by Thomson Reuters and attempts to factor in the *prestige* of the citing journals, much as Google gives differing weights in their page rankings based on the type of linking Web site (see [http://www.eigenfactor.org/](http://www.eigenfactor.org/)). The *eigenfactor* is computed over a longer period of time (five years versus two years for the IF), potentially providing a more robust measure, and the calculations take account of differing citation patterns across disciplines. Red Jasper sponsors an entrant in the journal ranking arena ([http://www.journal-ranking.com/](http://www.journal-ranking.com/)) claiming to offer the only online interactive journal ranking system based on user interests; they also utilize an algorithm to determine the relative “quality or significance of the citing source,” which is considered an improvement over the journal IF where all citations to an article are equally weighted (Lim et al., 2007; Martin, 2007). Other purported improvements include an expanded time frame for tallying citations and the option to project citation rates into the future.

More appropriate measures of individual scholarship come from looking at the number of citations for a particular article or for a scholar’s work overall (Garfield, 2001; Monastersky, 2005). Open access creates enhanced options for these approaches. Studies find the greater availability provided by OA increases use of the publication as evidenced by higher citation counts—up to 4.5 times more citations than print articles. This provides obvious benefit not only to the author, but to the scholarly community in general (Lawrence, 2001). Use of electronically available scholarship is also sustained at higher rates over time than is the case for print materials (Odlyzko, 2002). Even if this is a temporary advantage for OA as Velterop
(2008) maintains, it is still a driver for moving to OA more quickly in support of greater sharing of scholarly knowledge.

A number of alternatives evaluating quality and/or impact of an author’s body of work have been proposed. Perhaps the most well-known is the \textit{h-index}, developed by Jorge Hirsch (2005). Ostensibly this single number “reflects both the number of publications (“productivity”) and the number of citations per publication (“impact”);” this has the advantage of offering an easily understood number, but oversimplifies and distorts the relative contributions of these factors (Leydesdorff, 2009). Given the discipline-specific patterns of citation, comparisons between scholars can only be meaningful if they work in the same field. It appears to be a reliable indicator of future scholarly performance (Ball, 2007) but is criticized for its cumulative nature. That is to say, the number is logically increased the longer a scholar has been publishing, so this is not a good measure when evaluating newer scholars. Automated calculations of \textit{h-index} are available in Scopus and Web of Science databases, but figures will vary because the journals indexed differ.

Anyone who has used \textit{Google Scholar (GS)} to locate scholarly sources will be aware that citation figures are provided for each citation. \textit{GS} benefits from being broadly multi-disciplinary in its coverage but has some drawbacks as well. What is searched by \textit{GS} is considered proprietary information and so it is difficult to evaluate how thorough is its coverage. Open access articles are retrieved as well as those from some subscription databases. It provides better coverage of citations in books, conference proceedings and a wide range of journals, an aspect that benefits the social sciences and humanities in particular. Harzing (2008a) recommends utilizing the more traditional indexes, \textit{Scopus} or \textit{Web of Science} for the STM fields. The inclusion of less traditional sources, for example working papers in institutional repositories, may challenge prevailing definitions of scholarship. Several studies which have looked at \textit{GS} find that it typically retrieves twice as many works for a given author as are found with either \textit{Scopus} or \textit{Web of Science}, but still misses a substantial portion of a scholar’s work (Harzing). Again these discrepancies seem to be disciplines specific. Harzing’s \textit{Publish or Perish} tool (http://www.harzing.com/pop.htm) utilizes the raw citation data from \textit{GS} and analyzes them to offer several metrics for an individual scholar’s work, including average number of citations per paper.
and per author, an analysis of the number of authors per paper, and the *h-index* and some of its variations.

Open access publishing promises to open up whole new avenues for evaluating the quality of faculty scholarship. One estimate of impact unique to the electronic publishing world is tallying downloads of articles. A number of studies have found that download numbers—not surprisingly—are strongly correlated with subsequent citation behavior, and may stand in for or even provide a more valid measure of impact (Banks & Dellavalle, 2008).

Of course there are potential problems with using any variation of citation rates to evaluate scholarship. The validity of using citation rates to estimate quality is not established; highly controversial or even bad scholarship may garner a high degree of negative attention that results in higher citation rates. Citation measures typically include all citations to a work—good and bad—although some measures do endeavor to remove the effect of self-citations. The ability of open access to raise citation rates must be viewed within this context.

Although there is growing awareness of digital scholarship in higher education, the endorsement of this format as a legitimate avenue for publication is far from universal. Promotion and tenure decisions still reside largely in the hands of older, tenured faculty, who are more favorably disposed towards traditional scholarship venues; whereas, younger faculty—digital natives—are more readily accepting of electronic formats (Speier et al., 1999). Incongruously, this same study found tenured faculty were more likely to consider publishing in electronic journals, possibly because they recognize the advantages of electronic publishing and feel they can afford the “risk” of utilizing less traditional formats.

Some fields have progressed so far as to formulate guidelines for evaluating digital publications and utilizing them in the promotion and tenure process (MLA 2001, 2006 cited in Magnan, 2007). There is general agreement that the rigor of the quality control processes for a particular publication is more important than format when evaluating worth (Magnan, 2007; Speier et al., 1999). When equivalent processes are in place for selection, faculty believe digital publications should be considered equal in value to print ones for the evaluation of scholarship (Lamphere, Reinke, & Papanek, 1999). The relative newness of electronic journals mitigates against some traditional measures of quality, like acceptance rates—both
because they don’t have a long track record, and because they are not limited by space to accept only a limited number of manuscripts. It’s clear that moving to digital publishing will challenge this aspect of evaluating scholarly work, but it’s equally clear the shift to this format is inevitable. Given that the demands for faculty publishing are increasing, and that digital formats promise to accelerate the publication process, it would be unfortunate to not credit electronic publications in the faculty evaluation process (Magnan, 2007).

**Conclusion**

Digital communications are reshaping scholarship, offering greater access and enriched reader experiences (Magnan, 2007). These factors foster efficiency, cross-fertilization and collaboration in research (Harnad, 2003). The promise of OA scholarly publishing is endorsed by Harnad (2003) who predicts in the near future, all refereed journals will be online and anyone with an Internet connection will have access:

*The literature will all be interconnected by citation, author, and keyword/subject links, allowing for unheard-of power and ease of access and navigability. Successive drafts of pre-refereeing preprints will be linked to the official refereed draft, as well as to any subsequent corrections, revisions, updates, comments, responses, and underlying empirical databases, all enhancing the self-correctiveness, interactivity and productivity of scholarly and scientific research and communication in remarkable new ways.* (Abstract)

Velterop (2008) echoes this emphasis on the brave new world of scientific progress that will be the primary advantage of OA publishing. Certainly increased access to those who fund (directly or indirectly) the work itself (e.g., grants from government agencies or philanthropic organizations) will be improved and this is a “social good,” and certainly OA increases visibility and potentially reputation and impact of content creators—although once everyone’s work is freely available online, this relative advantage disappears. We should be focused on the larger benefit that results from the increased “efficiency of scientific discovery” (Velterop, 2008) that will also enhance the possibilities for new ideas generated by
interdisciplinary thinking. The technology now exists to support OA scholarly communication, so the question shifts from “why OA” to “why not” (Velterop)?

Future discussions will continue to fine tune new economic models that will support essential roles and value-added services for relevant stakeholders. Universities are increasingly recognizing that everyone will benefit from supporting these scholarly communication models with no decrement in quality of research; new metrics are emerging that will help measure the impact of scholarly work in this digital world, so that appropriate recognition of faculty and university funded work is maintained. The bottom line is that the change is inevitable. Digital natives and immigrants alike demand it and are in fact making it happen ahead of the economic, legal and political mechanisms that must eventually catch up.

It is the individual and collective responsibility of scholars to define and shape the digital scholarship world (Magnan, 2007; Wallace, 2008). Individuals can “push the train” through choosing to publish in journals that support OA and by proactively managing their copyrights. Likewise journal editors and reviewers can advocate for economic models that are more likely to expand access and thereby promote research. When starting OA journals, key considerations are establishing a rigorous peer review process, building a credible editorial board, and inviting the participation of recognized scholars in the field (Speier et al., 1999). The editors of JICE are to be commended for embracing this new model in support of scholarly communication in the arena of counselor education. J. Brien Evans, Professor of Geophysics at MIT sums up our roles and responsibilities:

Each of us within the academic community is a concurrent member of several different constituencies. As authors we want the widest dissemination of our journal articles, books, software, and visual media. As editors, we are genuinely invested in the success of a journal and its publisher. As educators, we wish to have free and flexible access to information to enrich our course materials. And as citizens and recipients of research funds, we are obligated to ensure unhindered access to the fruits of our intellectual endeavors to the widest possible audience (MIT Libraries, n.d.).
References


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