

Free, Downloadable, Peer - Reviewed Educational Resources - An Idea Whose Time Has Come

D. John Doyle MD PhD FRCPC*

Department of General Anesthesiology, Cleveland Clinic Foundation,
Cleveland, OH

Dr. Doyle is Editor for Peer-Reviewed Educational Materials, Journal of Education in Perioperative Medicine. This editorial accompanies the educational technology articles by Marshland et al. and Kaplan et al.

Editorial

Introduction

“The Internet has provided a virtual cornucopia of materials for students and educators alike. Yet this abundance is both a curse and a blessing. Consider, for instance, the words of Michael Gorman [1]:

The net is like a huge vandalized library. Someone has destroyed the catalog and removed the front matter, indexes, etc., from hundreds of thousands of books and torn and scattered what remains...“Surfing” is the process of sifting through this disorganized mess in the hope of coming across some useful fragments of text and images that can be related to other fragments. The net is even worse than a vandalized library because thousands of additional unorganized fragments are added daily by the myriad cranks, sages, and persons with time on their hands who launch their unfiltered messages into cyberspace.

Stevan Harnard has made similar comments [2], but emphasizing the anarchic origins of the Internet:

“The Net was created, and is continuing to evolve, as the result of a collective, anarchic process among computer programmers (“hackers”) and professional, student, and amateur users -- a networked effort, so to speak. Hence it was perfectly natural to imagine that this creative and enterprising anarchic spirit, which has proven so effective in forging these remarkable new tools, should also be the means of deploying them. Indeed, the rapid proliferation of bulletin boards, discussion groups, alerting services and preprint archives, complemented now by simple and powerful search and retrieval tools, all pointed in the direction of a new “ultrademocratic” approach to information production and distribution in this new medium.

Problems immediately manifested themselves, however, in this informational Utopia: Discussions would wax verbose and sometimes abusive; misinformation was difficult to distinguish from information; an ethos of egalitarian dilettantism prevailed; and, worst of all, serious scholars and scientists distanced themselves or kept their distance from the Net, concluding, understandably, that it was much too chaotic and indiscriminating a medium to be entrusted with the communication and preservation of their substantive ideas and findings.”

*Staff anesthesiologists

Correspondence:
Dr. Doyle at the
Department of General
Anesthesiology, E-31,
The Cleveland Clinic Foundation
9500 Euclid Ave.
Cleveland, Ohio 44195

E-mail:
doylej@ccf.org

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Table 1.

Possible types of materials in anesthesia teaching file collection (materials directed at PC's and PDA's)

- Master spreadsheet describing all files.
 - Pure text files (ASCII format).
 - Documents in Word format. May include embedded graphics.
 - Teaching slide sets. May include narration and embedded video clips. (PowerPoint is the *de facto* standard).
 - Graphic images (x-ray images, photographs).
 - Educational videos. Large variety of possible formats (AVI, QT, MPEG etc.)
 - Multiple choice question examinations for self-study, with answers.
 - Web pages. May include a number of embedded objects such as hyperlinks, images, audio clips, video clips etc.
 - Documents in Adobe's Portable Data Format (PDF).
 - Simulation scripts.
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PC = personal computer; PDA = personal data assistant (eg, Palm Pilot™).

In recent years scholars have debated how best to “clean up” the Internet, or at least identify zones where it is safe for scholars to tread. One proposed answer to these problems is the practice of peer-review. Peer review is the process in which material submitted for publication is reviewed by subject matter experts as a quality control measure. Thus, peer review may be viewed as a validation process that helps ensure the publication of high-quality materials that users can depend upon.

The peer-review process in scientific publishing is as old as scientific publishing itself. Typically, materials submitted for publication are reviewed by two or more expert referees who are particularly knowledgeable in the subject matter being discussed. Their comments and opinions form the basis upon which an editor will decide whether or not to publish the submitted material, and with what changes, if any.

BY contrast, in the case of educational resources, formal peer-review remains uncommon. Historically, this was likely because until recently, publishing educational resources like books was usually always done in conjunction with a publishing house with its own internal quality control system. With the rise of the Internet, the landscape has changed, and publishing no longer requires enormous expense and the cooperation of a publishing house.

The idea of establishing a peer-review process for educational resources is not new. For example, the Medical College of Wisconsin, in conjunction with the Robert Wood Johnson Foundation, has launched of a Web site at <http://www.eperc.mcw.edu/start.cfm> designed to be a central repository for peer-reviewed end-of-life educational resources for physician educators.

An even bigger initiative is Project Merlot, located at <http://merlot.org/>, which seeks to provide high-quality teaching materials in a number of disciplines of higher education. Here is a description of Project Merlot taken from the Web site:

MERLOT conducts structured peer review of online teaching-learning materials. The primary purpose of the reviews is to allow faculty from any institution of higher education to decide if the online teaching-learning materials they are examining will work in their courses. The emphasis on the user's perspective is the reason why the peer reviews are performed by peer users of instructional technology, and not necessarily peer authors of instructional technology. The MERLOT peer review process for evaluating teaching-learning materials follows the model of peer review of scholarship. Each review is conducted by at least two higher education faculty members who, from their individual reviews, compose a "composite review" that is posed to the MERLOT website. Currently peer review is being conducted in twelve discipline-based communities.

Peer Reviews are informed by standard evaluation criteria that divide the review into three dimensions: Quality of Content, Potential Effectiveness as a Teaching Tool, and Ease of Use. Each of these dimensions is evaluated separately. Generally, in addition to written findings by the reviewers, there is also a rating for each of these dimensions (1-5 stars, 5 being the highest). A review must average three stars (or textual equivalent) in order to be posted to the site.

With this background, I would like to propose that the Society for Education in Anesthesia take a leadership role in making available via the Internet a number of free, high-quality anesthesia-related educational resources aimed at helping instructors and students. Associated with this would be a peer-review process for ensuring that these resources are of high quality. Thus, the central idea would be to make available a number of reviewed electronic teaching resources such as those listed in Table 1. Such a system might work as follows.

Individuals who have material that might be suitable for the collection would submit them to the collection "curator". Those that are deemed to be satisfactory would be added to the "basic" collection. This material would then undergo a formal peer-review process to allow authors of submitted materials to revise their submissions to meet the suggestions of the reviewers and the collection curator. Possible criteria for the peer-review process are given in Table 2.

Table 2.

Criteria for reviewers (for inclusion in peer-review collection)

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- Is a substantive, nontrivial effort.
 - Is well written, well organized and well formatted.
 - Is reasonably complete and up to date.
 - Is pedagogically sound.
 - Makes good use of photos and illustrations where appropriate.
 - Intellectual property issues addressed.
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A final issue concerns the matter of intellectual property ownership. I would propose that the "copyleft" model of information philanthropy of be considered for the proposed initiative. Information philanthropy is the term sometimes used to describe the free availability of information resources without requiring that one obtain prior permission to copy and redistribute the material. Note that copyleft materials are not public domain property, as the author usually still retains copyright to the material but, by virtue of a copyleft agreement, is simply allowing it

to be downloaded and redistributed with the usual stipulations that the material must not be altered or edited, and that credit information is retained.

To explore this idea in a preliminary manner I have constructed a test web page at <http://seafiles.homestead.com> containing some sample educational materials. Readers are invited to contribute materials, serve as a reviewer, or offer suggestions. Please contact me at doylej@ccf.org

References

1. Michael Gorman, "The Corruption of Cataloging," *Library Journal* 120 [September 15, 1995]: 34.
2. Stevan Harnad. Implementing Peer Review on the Net: Scientific Quality Control in Scholarly Electronic Journals. <http://www.ecs.soton.ac.uk/~harnad/Papers/Harnad/harnad96.peer.review.html>.