Electronic journals in scholarly or professional fields provide publishers and readers an opportunity for wider dissemination of scientific and other knowledge than was previously possible through print publications. Besides this overriding benefit, electronic journals can incorporate features that improve on or go beyond the features that have traditionally been available in print publications. Following some background information on electronic publications, this article discusses issues involved in writing for electronic journals, particularly "Early Childhood Research & Practice" (ECRP). Topics discussed include hypertext links, graphics, audio and video, post-publication comments and discussions (for example, Chat rooms), access to downloadable data files, electronic review, and correction of errors. The article also covers additional notable features of electronic journals--such as provision in other formats, full-text searching, and constant access--and ways to find electronic journals on topics of interest. (EV)
Bernard Cesarone

Abstract

Electronic journals in scholarly or professional settings continue a tradition of fostering the creation and transmission of scientific and other knowledge that was begun long ago through print journals. Electronic journals provide publishers and readers an opportunity for wider dissemination of knowledge than was previously possible through print publications—a factor that may largely account for the increasing success of electronic journals. Besides this overriding benefit, electronic journals can incorporate features that improve on or go beyond the features that have traditionally been available in print publications. Following some background information on electronic publications, this article discusses issues involved in writing for electronic journals, particularly Early Childhood Research & Practice (ECRP). Topics discussed include hypertext links, graphics, audio and video, post-publication comments and discussions (for example, via Chat rooms), access to downloadable data files, electronic review, and correction of errors. The article also covers additional notable features of electronic journals—such as provision in other formats, full-text searching, and constant access—and ways to find electronic journals on topics of interest.

Introduction

Although it might seem that "everybody knows what an electronic journal is," editors and librarians have not reached consensus in their definitions or classification of electronic periodicals. An early definition (McMillan, 1991) described electronic journals as "any serials produced, published, and distributed. . . via electronic networks such as Bitnet and the Internet." Later descriptions distinguished between electronic journals available only electronically, and electronic editions of journals available both in print and electronically; and among types of electronic journals, such as online, CD-ROM, and networked journals.

Since the present journal, Early Childhood Research & Practice (ECRP), is published
by the ERIC Clearinghouse on Elementary and Early Childhood Education (ERIC/EECE), it seems fitting to provide an ERIC definition. According to the Thesaurus of ERIC Descriptors (ERIC Processing and Reference Facility, 1996), electronic journals are "periodicals, usually topical and moderated, that are published and disseminated (sometimes on an irregular schedule) in the form of electronic text or hypertext on computer networks (such as the Internet) or other computerized media (e.g., CD-ROM)."

From these definitions, it is clear that "electronic journal" is still a broad term that encompasses serial publications in several media. We at ERIC/EECE have tried to focus our intentions by calling our new journal an Internet journal. We could have been even a bit more focused by describing it as a Web-based journal. ECRP is an Internet-only or a Web-only journal, without a print counterpart.

A Little Bit of History

Electronic journals in scholarly or professional settings continue a tradition of fostering the creation and transmission of scientific and other knowledge that was begun long ago through print journals. The first scholarly print journal, Journal des Scavans, appeared in 1665 (Harter & Kim, 1996). A little more than three centuries later, the first electronic journal appeared "online."

It is probably not possible to identify the exact appearance of the first truly electronic journal, partly because early experiments with electronic serial publications did not necessarily correspond to what we would today call an electronic journal. Nevertheless, some authors do supply us with dates. Lancaster (1995) suggests that the possibility of a scholarly journal published in electronic form may have been first conceived of (or at least written about) in 1973. He nominates a journal on mental workload, begun in 1979, as the first electronic journal appeared "online."

The number of electronic journals grew throughout the 1980s, although many of them have already ceased publication. For example, in a review of electronic journals, Roes (1996) found that the oldest still-publishing electronic journal had begun publication in 1987. Lancaster and Roes cite three barriers to the success of early electronic journals: an insufficient number of readers with computer equipment, various technological problems, and the hesitancy of authors to publish in an electronic medium.

Obviously, these barriers have diminished in the last few years. In the United States at least, there are tens of millions of Internet users. Most technological problems (e.g., electronic storage issues) have been solved. And authors are willing to publish electronically as tenure committees have come to accept refereed electronic publications, and as corporate and university publishers have developed a strong Web presence.

As these barriers have been overcome, the number of electronic serials has increased throughout the 1990s. The Directory of Electronic Journals, Newsletters, and Academic Discussion Lists, published by the Association of Research Libraries (ARL), included in its first edition (1991) 27 entries in a section for electronic "journals, magazines, and zines." Subsequent yearly editions listed 36, 45, 181, and 306 entries. The 1996 edition highlighted 1,689 total serials (combining "newsletters and other serials" along with
"journals, magazines, and zines"); the seventh edition from 1997 (the latest print edition) included more than 3,400 entries in the combined sections. These figures are indicative of the increasing popularity of electronic serials.

Cost Issues

Early predictions of phenomenal cost savings for journal producers, partly based on the expected savings from the elimination of printing and mailing costs, are no longer considered realistic. The principal costs of producing a high-quality journal, regardless of medium, are editorial. Although some traditional costs are eliminated by using the electronic medium, other nontraditional costs are incurred for an electronic journal, such as costs related to Web page preparation and Web server maintenance. These factors have an impact on journal readers in that the cost of subscribing to an electronic journal may not decrease significantly.

Most commercial publishers continue to charge a subscription fee for their electronic journals. Academic publishers may or may not do so. The journals archived as part of Project Muse at Johns Hopkins University, for example, require a subscription fee. (See the note about Project Muse in the section below on Finding Electronic Journals.) ECRP issues will be free for at least the first year.

Writing for Electronic Journals

Leaving aside cost issues, electronic journals provide publishers and readers an opportunity for wider dissemination of knowledge than previously possible through print publications—a factor that may largely account for the increasing success of electronic journals. Besides this overriding benefit, electronic journals can incorporate features that improve on or go beyond the features that have traditionally been available in print publications.

It might be well to offer a few words of caution to writers before proceeding. Although they are writing for presentation in an online format, authors will want to keep in mind that they are still writing text. The same care to write clearly and concisely, assure grammatical correctness, and attend to the overall aesthetic of an article and to editors' comments, is needed for an electronic journal article as for one in a print publication. Electronic features such as hyperlinks, graphics, sound, etc., should be related to, and not be a distraction from, the points raised in the article.

Hypertext Links

Hypertext links can help readers move within a single document itself or through a collection of documents that comprise an article, and can help them find related resources on the Internet. Helpful links within a document may include those between in-text author-date citations and items in the reference list; between a table of contents and in-text headings; between reference items and related abstracts; and between text and appendices, glossaries, and other end matter. Links to Internet resources related to the topic of the article or to parts of the article might include links to the full text of referenced publications on the Internet; to referenced journal or publisher Web sites; to organizations mentioned in the text; or to fuller descriptions of programs introduced in the text; etc.
For articles appearing in *ECRP*, the journal editorial staff will add the types of links described above. *ECRP* editors will also search the ERIC database to determine whether any referenced item is in the database. For those items that are in the ERIC database, a copy of the ERIC record (with bibliographic information, abstract, and indexing terms) will be added to the article. A hypertext link will be added from the item in the reference list to the ERIC citation.

Authors are encouraged to suggest places in their articles where they believe a hyperlink to another Internet site would be useful. Journal editors will make a judgment about these suggested links. In addition to being clearly relevant to the point being made in the article, the word or words chosen as the hyperlinked text should provide a clear indication of where the link will go. (See several of the articles in this issue of *ECRP* for examples.) For *ECRP*, the editors may accept such a hyperlink but add a parenthetical explanation for clarity. Authors may include links that are not directly related to sections of the article by placing them in the end matter of the article, perhaps in an appendix or in a "For More Information" section.

**Graphics**

Pictures and figures can accompany print articles as well as electronic articles. But in the electronic medium, the possibility exists for a greater number of graphics and for color and animated graphics. Many articles can be enhanced by presenting a series of pictures illustrating a point—for example, to show preschool children's progress as they undertake a particular project using the Project Approach (see the article by Chard in this issue of *ECRP* for an example).

Authors can supply images to enhance the message of the text, or they may suggest places where images can be inserted. Again, authors should consider whether the pictures actually do add information for the reader rather than distract from the presentation. They should be aware that a large number of graphics on a page slows down the loading time of that page. Despite these cautions, there are some articles that may be greatly enhanced by the addition of a whole series of graphics.

Journal editors will normally accept pictures in a number of ways. This is true for *ECRP* editors, who accept actual photographs and drawings, or printed figures which are scanned into electronic images. Or they can accept electronic files of images. In keeping with the electronic medium of this journal, *ECRP* editors prefer to receive article submissions via email; in this case, electronic graphic files can be sent as email attachments. The graphic file formats that are used on the Web are .gif and .jpg, but *ECRP* staff can work with a number of other file formats, such as .tif, .bmp, .psd and others. Authors should consult the *ECRP* editors for more details on these formats.

It is the responsibility of authors to deal with copyright and other issues related to including pictures in electronic journal articles. The photographer or artist must, of course, agree to have the picture made available on the Web, and any identifiable individuals in the picture must agree to have their picture available on the Web. If children are included in a photograph, the permission of both the parent and child is necessary. Journal editors may require that article authors sign a release indicating that they (i.e., the authors) have received all appropriate permissions for posting.
photographs.

Audio and Video

This feature is, of course, a unique feature of electronic, as compared to print, journals. Sometimes, the text of an article can be enhanced by providing the audio or video of a speech, musical performance, lecture, interview, discussion between teacher and child, demonstration, etc. The *Journal of Seventeenth-Century Music*, published by the Society for Seventeenth-Century Music, contains articles that discuss aspects of Baroque music. In an article that compares the musical genres Passacaglia and Ciaccona, actual samples are provided to make clear the author’s points. To hear these samples as MIDI files (you will need a Midi player plug-in for your browser), see (or, rather, listen to):

http://www.sscm.harvard.edu/jscm/welcome.html

http://www.sscm.harvard.edu/jscm/v2/no1/Silbiger.html

http://www.sscm.harvard.edu/jscm/v2/no1/Silbiger.html#Section6

Or, you can hear the difference in the pronunciation of the Italian "mama mia" and the French "ma mère" presented in .au format files in another article that compares French and Italian singing. See:

http://www.sscm.harvard.edu/jscm/v1/no1/sanford.html

http://www.sscm.harvard.edu/jscm/v1/no1/sanford.html#Section1

When authors want to include audio or video segments along with their text, they can provide either taped material or electronic files. If an audio- or videotape is provided, the author will want to indicate to the editor what part of the tape is to be used. (For example, "Please start with the part when the teacher asks the children how they feel, and end after the little girl finishes playing the song she wrote for the piano.") If the segment is short (a few minutes or less), the audio or video could be presented as a clip in one of several file formats, such as .au, .wav, or .midi formats. If the segment is extensive, it could be presented in a streaming medium, such as through RealMedia. In the latter case, a RealPlayer plug-in for the reader’s browser would be necessary. But, as with the Adobe Acrobat Reader that is required to view PDF files, this software is free and easily installable for use with a browser.

Post-Publication Comments

Some electronic journals (and Web sites in general) allow readers to send comments, either by email or through a Web-based form, in response to an article. The comments may be directed to the article’s author or the journal’s publisher. These comments, which might be either short notes and questions or extended discussion of points raised in the article, can be dealt with in several ways. They can be answered directly by the author or publisher; they can be automatically posted to the Web site with the author’s or publisher’s response; or they can be selectively edited and posted to the Web site.

Authors would be providing an additional service to their readers by responding to such
comments and questions on their articles. Of course, to do this, a commitment of time and effort is necessary. When editors and authors discuss the authors’ articles during the prepublication stages, the topic of post-publication comments can be discussed. In those cases where readers’ comments may be included in a public discussion on the journal Web site, it is a good idea to inform readers at the time they post a comment.

On the Web site for the Culturally and Linguistically Appropriate Services (CLAS) Institute, CLAS staff have posted a paper for each of the first several months of 1999. Readers are invited to offer comments and receive feedback from authors. Note that this Web site is not an electronic journal, although this comment feature is the same that would be used in commenting on a journal article. See:

http://clas.uiuc.edu/papers.html

On Scholastic’s Instructor Magazine site, a monthly feature called "Teacher Forum" allows readers to post comments in response to a specific question. This feature is more like a survey, however, than a post-publication comment feature. See:

http://scholastic.com/instructor/ (choose the Teacher Forum for the month)

Post-Publication Discussions: Listserv Lists, Chat Rooms, Etc.

Just as Web-based feedback forms are used to post individual comments about an article, so might Listserv or other electronic discussion list formats—along with Chat rooms and other real-time discussion forums—be used to foster continued discussion about article topics. Listserv lists could be set up when articles evoke a particularly strong response in feedback, or a Listserv generally related to the journal topic could be set up in expectation of continuing discussion related to journal articles. In the latter case, article authors might serve as "guests" of the list during a week or other short period, during which time list members could pose questions to the author related to his or her article. As with responses to reader feedback mentioned above, this would be another service the author could provide to readers.

PARENTING-L is a Listserv list related to the National Parent Information Network (NPIN) and to NPIN’s bimonthly electronic magazine, Parent News, which discusses topics of interest to parents and parent support personnel. See:

http://npin.org/
http://npin.org/parlist.html

Similar to Listservs, Chat rooms would provide opportunities for extended discussions, except that the discussions would be real-time rather than asynchronous (i.e., the posting and the reading of a message occur at different times). Scheduled chat sessions could be held for discussing article topics. At these sessions, the article author may be present to answer questions from readers.

Electronic School is an electronic journal in education that houses a Chat room. See:

http://www.electronic-school.com/
The Web site also includes a message board, where teachers who have previously registered can post messages as part of a general discussion. This feature is more like the post-publication comments via a Web-based form that were discussed above, than it is like the extended discussion via Listserv lists or Chat rooms.

Access to Downloadable Data Files

Another new possibility for electronic journals, compared to traditional print journals, is to provide readers with the opportunity to further analyze the results of a research study. Researchers could include the data set upon which they performed their analyses. In some cases, data analysis software could also be provided at the journal Web site for users to execute on the data set to find new and different correlations from those of the original researchers.

Examples of data sets included with an article can be found in the Journal of Statistics Education at North Carolina State University. See:

http://www.stat.ncsu.edu/info/jse/

Many issues of this Web journal have an article or two that includes raw data sets and documentation related to those data sets. At the end of the article, readers can click on "raw data" or "documentation" to download the items. They can then perform their own analyses on these data. Some of these data sets relate to articles such as "Move Over, Roger Maris: Breaking Baseball's Most Famous Record," "Investigating Home Court Advantage," and "Diamond Ring Pricing Using Linear Regression." See:

http://www.stat.ncsu.edu/info/jse/v6n3/datasets.simonoff.html

http://www.stat.ncsu.edu/info/jse/v6n2/datasets.nettleton.html

http://www.stat.ncsu.edu/info/jse/v4n3/datasets.chu.html

While these topics may not be of immediate impact to early education, nevertheless, there is some relation; after all, many young children will surely have followed the famous home run race, and undoubtedly some early educators will either give or receive an engagement or a wedding ring in the near future! Besides allowing readers to access these data sets and corresponding documentation at the end of articles, there is also a section of the Web site where the data is archived. See:

http://www.stat.ncsu.edu/info/jse/datasets.index.html

Electronic Review

For an electronic journal, the editorial process can be carried on electronically. Ideally, authors will submit their articles via email. Editors can email edited copies back to authors for them to examine. Articles, either as plain text or partially formatted, can be uploaded to non-public Web sites for review by members of the journal review board.
These procedures should save some time in the editorial process. However, authors and editors should not expect the time saving to be exceptional, because most of the editorial time for an editorial journal, as for a print journal, is dedicated to the careful reading, editing, proofing, and reviewing of the articles.

Correction of Errors

The ability to correct errors quickly is, obviously, much greater for electronic journals than for print journals. As soon as an error comes to the editor’s attention, it can be corrected. Moreover, corrections can be incorporated into the original text, rather than be listed as "errata" in a subsequent issue. Depending on the error in question and the applicable editorial policy, an Editor’s Note may or may not be included with the correction. The practice of error correction in an electronic article does, however, raise some questions of the authenticity of an "original" publication.

Authors, of course, should be pleased that errors in their works can be so easily corrected in the electronic medium. Editors, however, may reserve the right to make minor corrections, or to remove or update broken hyperlinks, without consulting the author. However, no substantive changes should be made without an author’s permission.

Other Notable Features of Electronic Journals

Presentation in Multiple Formats

Articles in electronic journals are sometimes presented in several formats, most typically HTML (HyperText Markup Language) and PDF (Portable Document Format). HTML is the typical format for Web pages. It is a good format for on-screen reading and for making use of hyperlinks. PDF is a format that basically presents a graphical image of a page. It is often used to provide a Web version of the pages of an article that was previously published in print. Thus, it more closely resembles a print publication and is more likely to be found in the electronic edition of a journal that also has a print edition than in an electronic-only journal. Some readers find a print-out of a PDF page to be more aesthetically pleasing than an HTML print-out. Others find the text less legible than the text on an HTML page. To view a PDF file on a Web site, special software is needed. This software, Adobe Acrobat, is available free from Adobe Systems Incorporated. Typically, when you arrive at a Web page that provides PDF files, that page will also provide a link to the Adobe Acrobat download site. The software is easily installed and set up to be automatically accessed by your Web browser when it needs to read a PDF file.

An example of dual-format presentation can be found at the Journal of Asynchronous Learning Networks, an education journal published by Vanderbilt University. Articles in this journal can be viewed either as HTML files or as PDF files. See:

http://www.aln.org/

http://www.aln.org/alnweb/journal/jaln_vol2issue2.htm

Likewise, dual presentations are offered by the Journal of Technology Education, from
the International Technology Education Association, and by the Katharine Sharp Review, published by the Graduate School of Library and Information Science at the University of Illinois at Urbana–Champaign. See:

http://borg.lib.vt.edu/ejournals/JTE/jte.html

http://edfu.lis.uiuc.edu/review/

When an electronic journal provides access to articles in both HTML and PDF formats, authors do not typically need to do anything different when they submit articles. The journal editorial or Web staff will prepare both formats as needed.

**Full Text Searching**

Full text searching is another substantial advantage of electronic over print publications. There are, of course, search aids in print publications (tables of contents, abstracts, in-text headings, end-of-issue indexes, multiple-issue indexes), and some of these features may also be present in electronic journals. However, the type of searching that can be accomplished on a Web-based journal with a good search engine that allows multiple keyword searching with Boolean logic (i.e., combining terms with AND, OR, and NOT) is a drastic improvement over this print-based access.

The Journal of Statistics Education, for example, has a feature with which readers can search all the issues of the journal. This search feature allows keyword and phrase searching, as well as searching using Boolean logic. See:

http://www.stat.ncsu.edu/info/jse/

http://verity.ncsu.edu/query_pages/jse.html

The Scholarly Communications Project at Virginia Tech maintains a collection of education-related electronic journals on its Web site. Readers can perform a keyword search of the entire collection or of individual journals. See:

http://scholar.lib.vt.edu/ejournals/ej-search.html

A multiple-issue index may be present for some print publications. An example of a similar feature, an author index covering all issues of an electronic journal, is available at the Web site for the journal, Issues in Science and Technology Librarianship. Of course, a difference between a multiple-issue index in a print publication and this similar Web-based multiple-issue author index is that on the Web, readers can jump immediately to the desired article. See:

http://www.library.ucsb.edu/istl/

**Electronic Notification of Publication**

Since issues of electronic journals do not arrive in the daily mail, potential readers need to either check the journal Web site around the expected time of the next issue, or have another method of being informed of the issue's publication. One such method is a
journal-related Listserv. Individuals who subscribe to an electronic journal may also be
subscribed to a read-only Listserv or other electronic discussion list, or may simply have
their email address added to a notification list. In this case, the journal publisher posts a
notice to this list whenever new issues of the journal are uploaded, or when other new
features are added to the journal Web site.

For example, on the Web site for the journal Issues in Science and Technology
Librarianship, a box is provided in which readers can fill in their email address if they
want to be informed when future issues of the journal are available. See:

http://www.library.ucsb.edu/istl/

ECRP will offer a similar option on its Web site.

Provision of Related Resources

For Web-based journals, the journal Web site can provide resources and information
related to the topic of the journal or of individual issues. These resources may be
presented as sections of the Web site separate from the actual issues of the journal.
These resources will more closely resemble the types of resources one typically finds on
Web sites rather than in traditional journals, including Internet links, topical
bibliographies, related publications, etc. The ECRP Web site contains a section of links
to other electronic journals in early childhood fields, and will over time add other
resources.

Constant Access

A major benefit of electronic journals is that they are always available (at least ideally;
sites are sometimes down, of course). Readers need not be concerned about getting to
their library before closing time, nor about the occasional disconcerting discovery that
the journal issue they want is missing or damaged due to theft or vandalism.

Finding Electronic Journals

There are directories and archives that one can use to find electronic journals on the
Internet. A directory that has already been mentioned is the Association of Research
Library’s (ARL) Directory of Electronic Journals, Newsletters, and Academic
Discussion Lists. This print publication contains an extensive list of electronic journals
and electronic magazines, as well as other electronic resources. Information on this
publication is available at the ARL Web site:

http://www.arl.org/

The Directory is also available as a searchable online directory, but a paid subscription
is required to access it.

If you are looking for electronic journals on a particular topic, you can sometimes find
information on Web sites that address that topic. For example, on the ECRP Web site
(the one you’re currently visiting!), you will find a section with links to other electronic
journals that have some relation to early childhood education:
There are a number of other Web sites that serve as general archives (i.e., lists) of electronic journals. Some of these provide a search feature to help you locate journals on particular topics. For example, you might type in the keywords "education" and "early" to see if any journals related to early childhood education are listed on the Web site. Note that these lists may include not only journals in the scholarly sense, but also magazines, newsletters, electronic discussion lists, etc. A nonexhaustive list of these archives is presented below.

Colorado Alliance of Research Libraries (CARL)
http://www.coalliance.org/
http://www.coalliance.org/ejournal/

This Web site provides a title and subject organization of electronic serial publications (e.g., journals, newsletters, magazines, e'zines, webzines) on the Internet.

Committee on Institutional Cooperation (CIC) Electronic Journals Collection (CIC-EJC)
http://ejournals.cic.net/

The CIC is the academic consortium of the members of the Big Ten athletic conference and the University of Chicago. The CIC-EJC is a collaborative initiative between the librarians of the CIC member universities. The CIC collection seeks to incorporate all freely distributed scholarly electronic journals available online. The CIC-EJC serves as the electronic journal collection for the CIC member university libraries.

NewJour
http://gort.ucsd.edu/newjour/

This Web site is the archive for NewJour, an Internet discussion list for new journals and newsletters available on the Internet.

There are many more archives. Some of the ones listed above (such as CARL) have links to lists of other archives. There are also sites that are archives for journals published by individual publishers or sponsored by individual universities. Two of these are listed below.

Project Muse at Johns Hopkins University
http://muse.jhu.edu/muse.html

Project Muse provides worldwide, networked subscription access to the full text of the Press’s more than 40 scholarly journals in the humanities, social sciences, and mathematics. Access is by subscription. If your educational institution is a subscriber to Project Muse, you will have free access to these journals from computers accessing Project Muse via the institutional network. To see if your institution has access, you can check with your institutional library or visit:

http://muse.jhu.edu/proj_descrip/subscribed.html
Scholarly Communications Project
http://scholar.lib.vt.edu/
http://scholar.lib.vt.edu/ejournals/

This Web site at Virginia Tech contains a selection of journals compiled as a part of the project.

References


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