





Elearning Technologies

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Abstract. When blogging tools first arrived in 1998, people asked "What's a blog?" The word "blog" is a contraction of "Web log" and is used both as a noun as well as a verb. To blog is to write content to a blog. By design, blogs are best suited for the spontaneous thoughts and observations of an individual or team. They are not designed to facilitate rapid-fire back-and-forth discussion on a particular issue. Blogging tools are available as free or moderately priced services and as products you purchase and install on your own server. You may have noticed recently that many of websites now contain little graphical buttons with the word XML on them. For example:  or   or . When you click on the button, all you see is some jumbled text and computer code [ed: unless you have a newer web browser or an aggregator]. What's this all about? It's an RSS feed, and it's changing the way people access the Internet.

Keywords: Weblog, RSS, e-learning, RSS, blogging tools

JEL Code: D8, D83

I. Introduction

As the scope of information and communication technology (ICT) rapidly increases and expands, its benefits form reliance in higher education upon related eLearning technologies. By integrating sophisticated computer software and networked technologies, eLearning provides academic institutions with a way of enhancing and enriching teaching performance of faculty and learning activities of students. The expanding use of eLearning technologies over the last two decades is illustrated using the three Web generations.

E-learning technologies continue to expand. Today, computer and Internet technologies are more integrated with professional, academic, and personal lives. Instructional designers have access to more and more new flexible technologies, as do learners have a multitude of choices. These technologies are opening ways for courses, seminars, discussion forums and other approaches to learning to be delivered online with innovative ways to interact with instructors and other students. The following are different learning technologies in use today. Various tools are used in e-learning environments.

- Electronic Portfolios (ePortfolios)
- Electronic Performance Support System (EPSS)
- Personal digital assistants (PDAs)
- MP3 Players
- CD-ROM
- Web sites
- Web 2.0 tools
- Discussion and bulletin boards

- Collaborative software
- e-mail
- Blogs
- Wiki
- Chats
- Computer aided testing and assessment
- Educational animation, simulation, and games
- Learning Management Systems (LMS)
- Podcasts

In this paper we present a different elements regarding the various tools which are used in e-learning environments, in most part about blog and weblog, and about RSS.

2. Blog

A blog is a Web-based personal diary with dated entries. The beauty of blogs and blogging software is that they enable a writer to concentrate on content by removing all the distracting details of publishing the content to a Web site. An author can simply write and publish in one easy step. For this no knowledge of HTML or FTP is needed.

Blogs can provide a convenient way for learners to document learning experiences, such as interesting readings, the Web addresses of good examples, and questions and answers they have. Blogging tools remove any barriers to publishing to a Web site by allowing authors and learners to concentrate on content instead of technical operations.

Blogging software is new, but several tools are available.

Let's look at a few *popular blogging tools*:

- *Blogger and BloggerPro* are two of the best known blogging tools. They are services rather than shrink-wrapped products. Blogger is a free service and BloggerPro costs a nominal annual fee. Blogger and BloggerPro allow you to publish your blog to any server with FTP access.
- *Radio UserLand* - is a product rather than a service. Like Blogger, blogs can be sent to any server after being processed—in this case, processed right on your own computer. Another feature many users like is that Radio UserLand makes it easy to gather news from around the Web and post it to your blog. Radio UserLand users can also syndicate their content, allowing other Radio UserLand subscribers to display their posts making it is especially useful to sites that focus on news and commentary. Radio UserLand offers a 30-day free trial, after which you must purchase the software. Because the application is not Web-based, each author who contributes to your blog, must own their own copy of the application.

The blogging tool is, at its heart, a form with two fields: title and entry—and the title field is optional. Learning Media Consultant Jay Cross captures the concept with his Bloggar tool. "Blog software comes with a personal Website for those who don't already have one. The software captures your words in dated entries, maintaining a chronological archive of prior entries. In the spirit of sharing inherent to Net culture, the software and the personal Websites are usually free." [6]. Since the essence of the blog is found in individual, dated entries, the essence of the blogging tool is the entry field.

Blogging software breaks down into two major categories: hosting services and installed applications.

- *Hosting services.* A hosting service is a Web site that will give you access to everything you need in order to create a blog. It will offer a form for you to input your entries, some tools that allow you to create a template for your blog, and access to some built-in accessories. Your blog is hosted on the hosting service (hence the name), and the URL will typically reflect the hosting service's URL. In a way, blogging hosting services are very similar to the services that allowed people to host their own Web sites (services such as GeoCities or Angelfire) or their own discussions (services such as Yahoo! Groups or ezboard). The best-known (and one of the earliest) hosting service is Blogger (<http://www.blogger.com>), founded by Pyra Labs. When the company was bought by Google early in 2003, it reporting having about 1.1 million users. [8] The Blogger interface is not much more complicated than Jay Cross's Bloggar: the large field at the top allows you to submit an entry, while instructions and some options are provided in the lower pane (after you post, the help disappears, and you can view and edit your previous posts). Another major hosting service is LiveJournal (<http://www.livejournal.com>), a name that speaks to the side of blogging that began as an online diary. Far more so than any other service, LiveJournal attempts to foster a community of users, a strategy that used to be reflected in its terms of use: "LiveJournal relies on the community it creates to maintain an enjoyable journaling environment. In order to encourage healthy community growth, new free accounts must be sponsored by a present member of LiveJournal." LiveJournal reports more than 3 million accounts, with about half that in active status. Other major blog hosting services include GrokSoup, Salon Blogs, and TypePad. Major international hosting services include FarsiBlogs, for Iranian writers, and BlogsCN, for Chinese contributors.
- *Installed Applications.* A remotely installed application is a piece of software that you obtain from the provider and install on your own Web site. These systems are similar to Web-based applications such as ColdFusion or Hypermail. Because of this, the number of users is much lower, but those who do use them tend (arguably) to be more dedicated and more knowledgeable than those who use hosting services. Installed applications are also more suitable for institutional use, since access can be controlled. Probably the best-known remotely installed application is Six Apart's *Movable Type* (<http://www.moveabletype.org>). As shown in the screenshot from the Learning Circuits blog back-end (figure 1), Movable Type offers numerous options for the blog author, including extended entries. Most school blogs use Movable Type. "We used this product because it is free for use by educational institutions such as schools," says the National Research Council's Todd Bingham, who with Sébastien Paquet has just completed work with Le Centre d'Apprentissage du Haut-Madawaska, an elementary school in northern New Brunswick, providing Weblogs to all its students and teachers. "In addition to its semi-open source nature, Movable Type is written in Perl and can be back-ended by a MySQL database system," Bingham adds. "Both of these products are also open-source in nature. This allows us to customize some of the features, rather than having to write something from the ground up. We were also able to set up an additional security system using this interface by using Linux's default security features. A private blog, viewable only by the teacher and a singular student, can be set up this way. This allows the student and teacher to have a private means of feedback, as opposed to the public blog open to the public." [10]

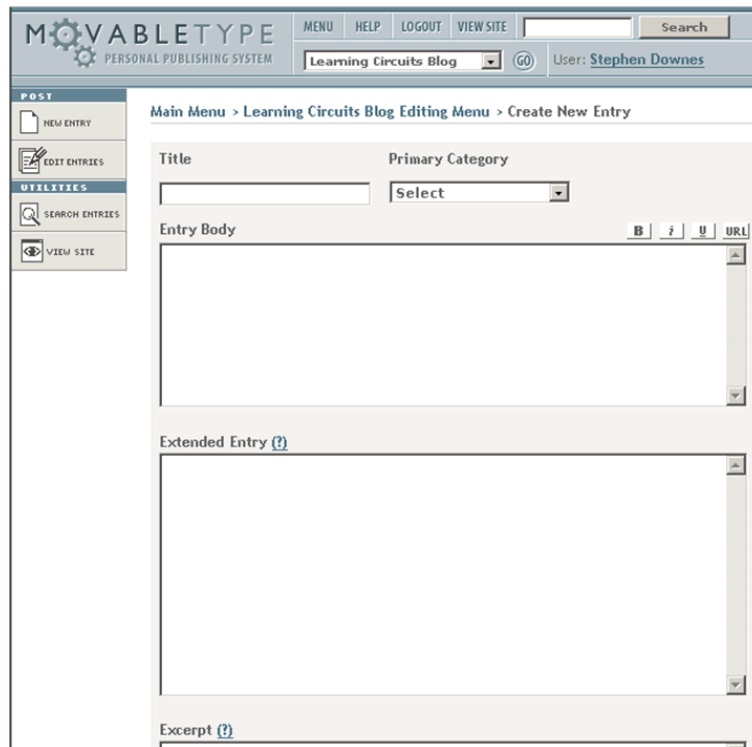


Figure 1- Movable Type

To use blogs in e-learning, you need to evaluate blogging tools with that purpose in mind. Here are some issues we think are important in choosing a blogging tool as part of your e-learning project.

- **Ownership and costs.** Are you buying a service or a product? You need to read the licenses carefully. When you buy a service, you typically pay a yearly fee as well as other charges, such as an excess storage fee or a fee for posts over a certain limit. Conversely, when you buy a product, you own it—along with all the set up and configuration problems that may come with it. Consider your needs and level of technical expertise.
- **Hosting.** Where is your blog hosted? If you do not have a Web site of your own, you may want to be sure that the blog tool you purchase (or subscribe to) has a free hosting service. Conversely, you may want to be able to host your content on a server of your choice. Not all tools offer this kind of flexibility. If you do choose a free hosting service, consider how much you can customize the graphical appearance. Does advertising appear in your blog? If so, is there a service upgrade that removes the ads?
- **Security.** Security controls who can author and read a blog. If you are sponsoring a group blog, how do you ensure that only contributors that you have cleared can post to the blog? Likewise, how do you limit access to authorized learners?
- **Administration.** If you are using a blog as a collaborative tool, how easy is it to add new contributors to your blog, change the order of posts, approve posts before they are added to your blog, and archive outdated posts?
- **Search.** How easy is it for readers to find specific posts in a blog? Can they search by date, by subject, by title? If you have a long blog, the ability to find a particular piece of information is important.
- **Posting.** What is required to add new content to the blog? Can you post from any computer using the Web, or do you need a special application installed on your system? It may be more convenient for you to be able to post from anywhere. Does the tool check your

spelling with a spellchecker? (Face it, everybody needs an editor.) Can you edit posts after adding them to a blog? Can you make posts through a firewall?

There are a lot of "needs" in e-Learning, and there's often a limit to the time, talent, and money that can be thrown at them individually. For example, take facilitating communication across project teams during design and development, or between instructors and learners when they are separated by time and space, or between learners while building a community. What if there was a way to use "public" infrastructure for this, reducing the cost of infrastructure and software? Or what if there was a low-cost way to publish learning objects for use by other developers, or to acquire learning resources for use in your own projects, or to make them available for direct use by learners?

These challenges have at least two related potential solutions: weblogs (or "blogs") and RSS (an abbreviation with more than one meaning, as you will soon see). These may be familiar if you are already an active member of the weblog community. In any case, this article will introduce you to these two developments, and to some of the more appropriate ways they are being applied to e-Learning. Weblogs, in their most fundamental form, are web sites that feature commentary posted as "items" in reverse chronological order. It would be a mistake to dismiss all weblogs as commentary by the self-absorbed, or as manifestos written by people with an axe to grind, although that may be the first impression.

The purpose of weblog technology is to make publishing — of anything — universally available. While not all content posted to weblogs is of critical value, the number of professional and informative weblogs has exploded in the past few months. In particular, the number of weblogs addressing education and the application of technology to teaching and learning seems to have doubled since 2004.[4] Many of these efforts are concerned with reporting advances in learning object applications, pedagogical models matched to the e-Learning environment, and collaborative learning. Others are simply the product of teachers who want to share ideas that have worked for them.

Apart from the fact that the technology is cheap (or even free) and the tools are getting better, there are two basic reasons for this upsurge in interest. First, it is easy to set up and use a weblog in order to share information and points of view. Little or no technical knowhow is required. A weblog can literally be up and running in less than fifteen minutes. Content can include text, images, and streaming media (both audio and video). But in the long run, a more significant aspect is that the technology behind some weblogs makes XML and self-describing data accessible and useful to busy people who are not (and who do not wish to become) preoccupied with information technology. This technology is called RSS, which stands either for RDF Site Summary (RSS 1.0, with RDF being an acronym for Resource Description Framework) or for Really Simple Syndication (RSS 2.0), depending on the tools you use.

RSS is important to e-Learning developers because with this technology, it is possible to create and use repositories of learning objects on the public Internet or on a private intranet. Granted, this is not a solution of choice for every situation, but it is being done and the number of applications is growing. The distribution of learning objects through RSS may be one of the next major applications to develop from weblog-related technology. [4] Weblogs are "websites organized by time" (to quote one vendor of weblogging software). Because of this temporal orientation and their ease of use, weblogs are becoming more common as a tool for e-Learning developers and project managers, as a communication medium for instructors, and as support for learners.

In e-Learning, most relationships (instructor to student, student to student, project team member to project team member) are temporary, existing only for a set period of time, so weblogs are a good match.

3. Examples of weblog use in e-Learning

These are well-documented on the Web, but here is a summary of the common applications. Communication between educators. This was probably the first use of weblogs in support of teaching and learning, the exchange of information and ideas that work. In some cases, organizations are actively using weblogs internally as a knowledge management tool across project teams. Between organizations, weblogs support information-sharing on a global basis. By now, many e-Learning professionals have used the weblog named elearningpost to keep up to date on developments in technology, pedagogy, and design of online distance learning. Other similar weblogs include OLDaily, elearnspace, and Serious Instructional Technology. Such weblogs form the core of a serious and growing movement on the Web. Many educators and trainers use the RSS feeds from other weblogs to set up their own "news ticker" to bring them the latest developments in their fields of interest, on a regular (even hourly) basis.[2]

Communication between educators and learners Another important use of weblogs in education is as a means of teaching writing. The idea is that people learn to write better, in part, by writing more often. Weblogs make this very easy, without requiring the learner to master penmanship, word processing, HTML, or any other complex skill. In corporate training, the applications are usually not so elementary, but the idea is still useful. For example, case study analyses can easily be written up as weblog entries or as attachments to entries. Instructors or teachers can post assignments, instructions, and links to enrichment material related to the day's discussions on their weblogs. For their part, learners can complete the written parts of some assignments as weblog entries and receive the instructor's comments in the same medium. Lately, instructors have found that it is also possible to use weblog technology to place live news feeds inside a WebCT course, and possibly inside other synchronous courses. Learner to learner communication, this is potentially the most powerful application, especially where collaboration is a significant objective of an online learning application. This can be important in those areas of instruction where learners must construct their own knowledge in order to meet objectives. Finally, learners who would otherwise be isolated from their colleagues by time or distance can use weblogs as a platform for group projects and for information exchange.[2]

It is possible to create and post weblog entries with a text editor, if you are adept with HTML and know how to use FTP (File Transfer Protocol). Most people prefer to use a dedicated tool, like Blogger or Radio. With a dedicated weblogging tool, creating and publishing content is a two-step process, all of it taking place in the familiar web browser. Create the content by typing or linking. Click on a button marked "Post." The content immediately appears online in your weblog. By itself, this is "nice," but hardly compelling. The strength of weblogging tools is in the additional features they offer. [1] Most weblog software allows you to archive the posts (items). This means that you, and anyone else, can refer to them at any time in later posts by way of links to each individual item. At the owner's discretion, most weblogs also allow readers to leave comments on each item and thus support dialog between readers. Many weblogs create what is known as an RSS "feed." Literally, a feed is an XML document that contains all of the items in the weblog, together with metadata relating to the weblog.

Other people can subscribe to this RSS feed. That is, they can set up their own weblogs (or special software called a "reader") to go out at regular intervals and aggregate the newly-published contents of the weblogs to which they have subscribed. In this way, rather than

having to "visit" each weblog in which they have an interest, they simply open their own weblog to see all the new items. There are two different types of software that can be used when applying weblogging in e-Learning.

- The first type is used to create weblogs and weblog entries. In addition to the benefits cited above, this type of software provides standardization (important if many people will be collaborating via weblog), additional communication features, ease of use, and practically no barrier to starting (the user does not have to know any HTML or XML at all).
- The second type of software (the "readers" mentioned earlier) simply gathers up and displays entries and news items from feeds created by weblogs and by other services. Weblogging software

The first type of software mentioned is usually referred to as "weblogging software" or "blogging tools." Most of these offer archiving and the ability to create RSS feeds, send new entries to the weblog via email, and to customize the appearance of the weblog interface. Some of these tools are free (but with plenty of ads to support the service) and some involve the payment of a subscription fee. In some cases, organizations or educational institutions have written their own blogging tools, in order to avoid subscription fees and advertising as much as to meet particular needs.

4. RSS - Really Simple Syndication

RSS is a technical format that allows online publishers to share and distribute their content to other websites or individual Internet users. It's commonly used for distributing headlines on news websites. Bloggers use it to distribute summaries of their blog entries as well. RSS is written in the Internet coding language known as XML, which is why you see RSS buttons labeled that way. [5] If a website publishes an RSS page, commonly known as an RSS "feed," this feed will contain summaries of all the recent articles posted on that site.

RSS allows you to see updated content in news aggregators or web browsers (new ones have integrated this feature). It solves the *What's New* problem for websites by allowing content consumers to subscribe to content that they find relevant. That means it's a great way to communicate with a market that has already defined itself as interested in your content by having taken the first step of subscribing to the feed. It also solves the SPAM problem, because your market has already agreed to be targeted. Its permission marketing done right, and with no *SPAM filter* headaches. [4]

RSS also solves another problem by allowing content to be syndicated (or republished) on other websites. This is how tools like Yahoo or Google News work. They collect RSS feeds from across the internet and then publish the relevant ones on their site. Imagine the traffic you would generate by getting a story published on one of those news portals. This opens up an entire new way to drive traffic to your site.

RSS is probably the most powerful marketing tool emerging in internet publishing today.[5] Publishing RSS Feeds There are several tools for publishing RSS feeds widely available on the Internet, with a range of prices from free on up. The problem with most of the tools is that they require a fair bit of work to get your content into the feed you are creating. With some, you have to copy and paste your content into their tool, which is simple for small amounts of content but not for larger websites. With others, you have to have PHP, ASP, or Perl on your webserver and use those tools to rework your content into a feed. In all cases, none of them are designed to integrate directly with Dreamweaver, a primary tool used to create your website content.

The right solution would take advantage of the content you've already created and the way that you manage that content using Dreamweaver. It would give you a way to leverage what you know to accomplish the task of creating a feed, without having to learn new tags for RSS and without having to become a CGI expert to program PHP/ASP/Perl. [1] When manual feed creation becomes a headache, consider using *RSS Creation Software* or *RSS DreamFeeder*.

That's what *RSS DreamFeeder* does. RSS DreamFeeder allows you to specify elements of the content you're already creating for your website to be reformatted as an RSS feed. It integrates specialized search-engine technology into Dreamweaver with a simple floating panel where you can create, edit, and process your content into RSS feeds. DreamFeeder's panel lists new content that has been added to your site since the feed was last updated and will add that new content to your feeds when you tell it to. You don't have to edit every entry in the feed; all you do is tell it to do the job. It only does that when you're ready and your new content is ready — avoiding problems with feeds pointing to articles still being created.

How to Create RSS Feeds

Since any RSS-file is a specially formatted XML file, it can be edited with any XML-editor. And since XML-files are just plain text you can use any text editor, even Notepad, to create your first feed.

Step-by-Step guide to Creating an RSS Feed

Follow these steps to create a simple RSS feed manually.

1: Create an empty text file - Use Windows Notepad or any other text editor.

2: Add XML Declaration Tag

Since RSS is a dialect of XML, the first line in the feed must be the XML declaration.

```
<?xml version="1.0"?>
```

3: RSS Channel

Now it is time to add the rss XML tag, and the channel tag. All feed contents will go inside these two tags.

```
<rss version="2.0">  
<channel>
```

4: RSS Feed Properties

Next step is to place information about the RSS feed such as it's title, it's description, it's language and a link to it's web-site. And finally add the lastBuildDate field which should be the date and time that the feed was last changed. This field is optional, but highly recommended.

```
<title>Enache Cristina</title>  
<link>http://EnacheHomepage.ro</link>  
<description>Pagina Personala</description>  
<lastBuildDate>12 April 2008 18:37:00 GMT</lastBuildDate>  
<language>en-us</language>
```

5: Adding Items to your RSS Feed

Every RSS feed consists of **items**, and each item is an RSS Feed has a title, link, description, publication date, and (optionally) guid (unique identifier).

```
<item>  
<title>Primul post</title>  
<link> http://EnacheHomepage.ro/Pag1.html</link>  
<guid> http://EnacheHomepage.ro/Pag1.html </guid>
```



```
<pubDate>12 April 2008 18:37:00 GMT pubDate>  
<description>Hello World!</description>  
</item>
```

6: Add closing tags for Channel and RSS.

```
</channel>  
</rss>
```

7: Validate your new RSS feed

After you have created your RSS Feed, validate it.

Sample feed

Here's a sample RSS file which can be used as a template for your first feed:

```
<?xml version="1.0"?>  
<rss version="2.0">  
  <channel>  
    <title>Enache Cristina</title>  
    <link>http://EnacheHomepage.ro</link>  
    <description>Pagina Personala</description>  
    <language>en-us</language>  
    <lastBuildDate>14 April 2008 09:41:01 GMT</lastBuildDate>  
  
    <item>  
      <title>Primul post</title>  
      <link> http://EnacheHomepage.ro/Pag1.html</link>  
      <description>Hello World!</description>  
      <pubDate>14 April 2008 09:41:01 GMT </pubDate>  
    </item>  
  
  </channel>  
</rss>
```

5. Conclusion

The collaborative aspect of Weblogs is what has brought many teachers into the fold. Commenting capabilities in many of the blogging software packages allow for easy peer review for students and teachers and make bringing in experts or mentors from outside the classroom easy.

But Weblogs in and of themselves are only a part of the story. There is another "tool" that is built in to most blogging software that many think will change the way we receive and process all of the information we get from the Internet. This is what's known as RSS. RSS is a real important technology that information specialists and educators would be well advised to harness sooner rather than later. In simple terms, Weblogs (and an ever-growing number of other sites) generate a behind-the-scenes code in a language similar to HTML called XML. This code, usually referred to as a "feed" (as in "news feed"), makes it possible for readers to "subscribe" to the content that is created on a particular Weblog so they no longer have to visit the blog itself to get it. As is true with traditional syndication, the content comes to you instead of you going to it. For educators, the potential significance of RSS is huge. Think about how teachers and districts could use this syndication process to communicate with students, parents, newspapers, etc. In the classroom, teachers who have students create their own Weblogs can

easily keep tabs on what those students are posting by subscribing to their students' feeds and simply checking their aggregators regularly.

The advantages of blogs include the following:

- The students are potentially better informed and this can only be good for the long-term health of our societies.
- Blogs, in an intranet environment, can be an excellent way of sharing knowledge within the university.
- Blogs can be a positive way of getting feedback, and keeping your finger on the pulse, as readers react to certain pieces, suggest story ideas, etc.
- Blogs can build the profile of the writer, showcasing the

The *disadvantages* of blogs are:

- Most people don't have very much to say that's interesting, and/or are unable to write down their ideas in a compelling and clear manner.
- Like practically everything else on the Web, blogs are easy to start and hard to maintain. Writing coherently is one of the most difficult and time-consuming tasks for a human being to undertake. So, far from blogs being a cheap strategy, they are a very expensive one, in that they eat up time. As a result, many blogs are not updated, thus damaging rather than enhancing the reputation of the organization.

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