# Ed at a Distance Magazine and Ed Journal
## November 2000

Editors Podium — Don and Elizabeth Perrin

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# EDITORS PODIUM

Drs. Don and Elizabeth Perrin

How do you define quality in education? It depends on whom you ask. *Everybody* is an expert in education because they have been through the system. They make judgments based on their personal experiences, and for many it may have been 20 or more years ago. In the interim, the world has changed a great deal. Today's education must be designed for a multicultural global society living in the information age. It is different. The child is different. The curriculum is different. The methodology is different. The needs and goals are different.

We once asked Edward Deming how to identify a good teacher. We were discussing the validity of a "Teacher of the Year Award." He was against such awards - said there was no way to make such a judgment in the present. It might be five years before you knew the results of what the teacher did and did not do. Furthermore, the results required data – a lot of very focused data.

Teachers prepare students for jobs – and living – in the future. It is a pity that our academic organizations are so steeped in the past. The expertise of parents and politicians and educational leaders is torqued by the fallacy of their own experience in a very different environment.

Teachers live in the reality of the present. They are confronted with overwhelming problems and there is no help in sight. Can we get rid of the baggage of the past in order to tackle the problems of the present and the future?

Many solutions have been attempted. In education, theories, practices, and technologies come and go. Education is like the sea. Each new wave washes some treasure and some trash on the shore and returns it to the sea. Tides rise and fall. The sun and moon continue their cycles. And education is so steeped in tradition that it reverts "back to basics" and practices not appropriate for today's students.

Half a century ago parents bought encyclopedias to help their children to learn. Today they buy computers. Human tutors are replaced by tutorial software. Passive presentations are replaced by interactivity. Educational technology businesses and foundations are promising replace the folk arts and sciences of teaching and learning.

The best products are content-rich, highly-involving, and stimulate the learner. They provide teachers with tools for diagnostic and prescriptive teaching, individualizing instruction, and setting up Individualized Educational Programs. Who has the time to try them out or learn to use them? How do we separate the good from the bad? Edward Deming answered that question also. Test them, observe them, and gather data. Data! Data! Data!

An independent authority is needed to evaluate interactive courseware in a cross-section of education markets. Curriculum should be rated against national standards – not the standardized tests that have been administered since the early 20$^{th}$ century, but the new Content Standards that integrate higher levels of

learning with real-world application. The new learning is often called project-based learning because it requires hands-on mind-engaging participation – with visible and measurable results.

We do not have to wait five years to find out what was learned and what was not learned, and whether the learning is relevant. Industry has models we can follow. Products are tested as they are developed and human engineered to be simple, intuitive and effective. Development procedures used for video cameras and computer software can be applied to the pharmacopoeia of teaching and learning products for educational use. This, combined with continuous product improvement, will ensure rich and relevant resources that stimulate higher levels of learning. It will provide teachers with standards and validation data to assess the product for diagnostic / prescriptive teaching and learning, for individualized educational programs, adult learning, remedial learning, even recreational learning!

Thank you Edward Deming! Your advice has challenged us to gather meaningful data that measures the results, not the process. As a result, the future will be different. After all, the future is what education is about!

# Content Syndication and Online Learning

**Stephen Downes**

This paper divides into two parts. In the first part it defines and describes the RSS (Rich Site Summary) format and its emerging use as a format for content syndication by news and media organizations on the World Wide Web. Through the use of working models and demonstrations, the development, display and distribution of content modules via RSS will be discussed. In the second part, the theories and practice employed by news and media organizations are applied to online learning. Using MuniMall, an online learning community developed by the author, as an example, the method of integrating syndicated content with online courses and learning materials will be described and illustrated.

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## Part One: Content Syndication

*1. Channels and Channel Definitions*

If you surf the web using a Netscape browser and followed the 'My Netscape' button to its logical conclusion, you will have encountered a description of something called RSS, or "Rich Site Summary." An RSS file allows a website publisher to produce a on Netscape's site; Netscape users, in turn, may select your channel as one of several channels on their 'My Netscape' page

A channel, typically, looks like this[i]:


*Figure 1: Netscape RSS Channel*

The idea of a channel is that it is a brief summary of a website or online publication. It is composed of a channel name, a logo, and a set of headlines listing items on the site. Each headline points to a different article or column and may be supplemented with a brief description of its contents.

So far so good, and when Netscape launched its service early last year I was quickly on board with an RSS file of my own. It was a frustrating experience: Netscape's validation didn't work properly and I found myself re-registering over and over with the site's somewhat slow interface. Eventually the wrinkles were smoothed and my Rich Site Summary was accepted into Netscape's interface. Here's an abbreviated version of what it looks like:

```
<?xml version="1.0"?>
<rdf:RDF
   xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
   xmlns="http://my.netscape.com/rdf/simple/0.9/">

   <channel>
       <title>Stephen's Web Threads</title>
       <link>http://www.munimall.net/scripts/downes/clist/clist.cgi</link>
       <description>Stephen's Web Threads</description>
   </channel>

   <item>
      <title>Distance Education vs. Traditional</title>
      <link>http://www.munimall.net/ /topiclist.cgi?topicid=969550119</link>
      <description>
Does assigning distance students more work make up for the lack of classroom contact?
Well, no.
      </description>
   </item>

   <item>
      <title>Interview with Presidential Candidate Jackie Strike</title>
      <link>http://www.munimall.net/ /topiclist.cgi?topicid=969464710</link>
      <description>
        The one-on-one chat with the talking 3-D candidate sets not only a
        political precedent, but is a technological first.
      </description>
   </item>

</rdf:RDF>
```

Figure 2: RSS File

As you can see from the diagram, there are two main elements to an RSS file: the channel definition, and the item definition.

A channel is a set of related items. Items are descriptions of individual articles. A channel may describe items from a single website or items which discuss a particular topic. Items in turn may be anything at all, though typically they are a particular essay, news item, column, or similar chunk of content.

Channels and items each have properties. In the example above, a channel will have a title, a link or URL, and a description. Channels frequently have images associated with them, may be provided by a publisher or website, and may have keyword descriptors. In a similar manner, items also have properties: a title, a

link, a description, and perhaps some keywords, author and publisher information.

The idea here is that an RSS file is a structural description of a website or a group of related websites. Because the information is structured, when it is retrieved by a remote service – such as Netscape's NetCenter – it can be manipulated, displayed in various templates, and made the subject of intelligent searches. But more importantly, for the author of the RSS file, it allows content to be created and published once and distributed and viewed on many different websites. This is the heart of the concept behind RSS and of content syndication generally.

*2. A Wee Bit of History*

Where there is Netscape there is always Microsoft, and it should be no surprise to the reader that the Redmond software company developed an alternative channel format. The Microsoft format is called 'Channel Definition Format' and was introduced in 1997 for its Internet Explorer 4.0 web browser. The specifications[ii] were described in the November, 1997, issue of Microsoft Interactive Developer and a software development kit was released.

The idea behind Microsoft's 'Active Channels' was that website summaries could be displayed in the browser itself via a 'channel bar.' For some reason, Microsoft abandoned this feature in its release of Internet Explorer 5.0 thinking, perhaps, that it might incorporate it later as part of the Windows desktop.[iii] Ironically, a Netscape version of the channel bar was one of the major features added to the Netscape 6.0[iv] release in April of this 2000.

Both the Microsoft and Netscape initiatives centered around a set of protocols described by the World Wide Web Consortium as RDF, or Resource Description Framework.[v] The purpose of RDF was to provide a generalized format for online resources; major implementations thus far have included the Dublin Core[vi] for publications and the IMS Protocols[vii] for instructional materials.

But RSS channels need not be defined in an RDF format. Dave Winer's Scripting News,[viii] for example, adopted a non-RDF version of RSS. Started in December of 1997, the Scripting News Format, as it was called then, was launched to introduce the use of XML to news pages.[ix] By June of 2000, the Scripting News format had evolved into something called RSS 0.91 - which should not be confused with Netscape's RSS for while Netscape's 'RSS' stands for 'Rich Site Summary', Winer asserts that that there is "no consensus on what RSS stands for, so it's not an acronym, it's a name"[x].

Finally, in August, 2000 (which, by the way, explains why my paper is late), a group of developers adapted the best of RSS 0.91 and re-adopted the RDF format, producing the widely accepted RSS 1.0 specification.[xi] This design allows content developers to design and employ "RSS modules" in their RSS files, thus greatly increasing the potential vocabulary and use of RSS files. Content

designers can now include, for example, threading, referencing, categorization, and more to the core RSS data set.

*3. Syndication*

The purpose of creating RSS files is to allow for the syndication of news content. Syndication on the world wide web works in much the same way syndication works in the world of print and electronic journalist: somebody writes a story, it is posted on 'the wire', and somebody else picks up the story for inclusion in their own publication.

On the web, the earliest syndicators of online content were the portal sites such as Yahoo and Excite. The basic idea behind these portals was that a reader could locate information from many sources from a single web site. Syndication on Yahoo[xii] has become extensive. The site no longer merely lists headlines; it also prints complete sets of news stories[xiii] from suppliers such as Associated Press, Motley Fool and Forbes. While attracting remarkably little attention, Yahoo has become the most comprehensive news service on the web.

Syndication can be time consuming and expensive. Content syndicators want mechanisms that allow headlines and articles to be collected automatically. Programs that search through the web - called crawlers - have been around since the early days; the first well-known crawler was WebCrawler[xiv]. Today, the most popular crawlers are AltaVista[xv] and Google.[xvi]

But these are very generic crawlers and they do not organize their information in any systematic way. That's why they are better known as 'search engines' than as syndicators. Nonetheless, the technology for automatic syndication is essentially the same as for web crawling, and it was only a matter of time before automatic syndication came to the fore.

Perhaps the largest such syndicator is Moreover.Com.[xvii]. This site collects headlines from 1500 newspapers and content providers around the globe and organizes the results into 280 separate categories. What Moreover has to do is retrieve the headline page from each of these content providers, parse the HTML in order to find headlines and links, and then store these in appropriate categories. It then outputs a series of RSS files, one for each category. News and information sites around the world use RSS feeds. Providing a similar service is iSyndicate.Com,[xviii] which enters into content distribution agreements with publishers and provides RSS feeds and complete articles for syndication.

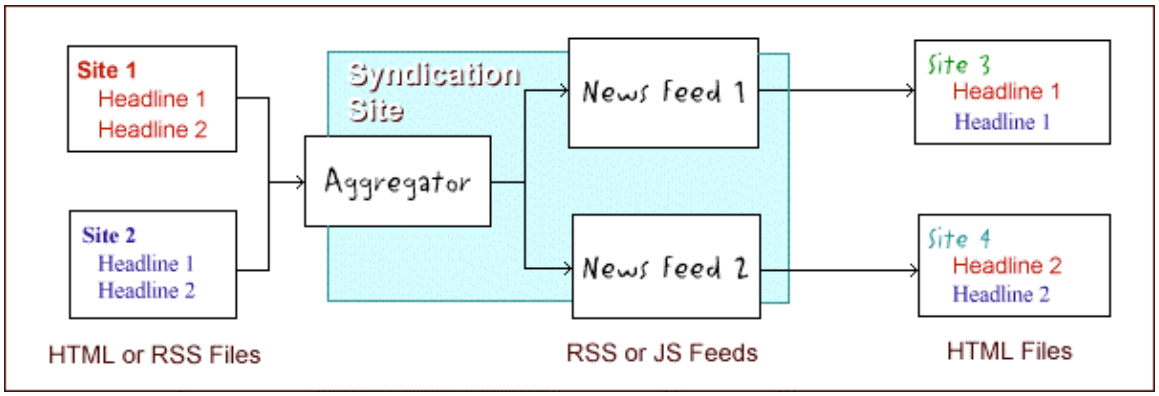


*Figure 3: RSS Data Feeds*

Pictured above is a flow chart diagramming the syndication process. Original content sites (Site 1 and Site 2) produce headings or content on different topics. The aggregator retrieves this content, which sorts the retrieved content, producing topic based news feeds in RSS or JS format. These news feeds are in turn retrieved by other content sites (Site 3 and Site 4) and are displayed as HTML pages.

Earlier content syndication sites collected content from content providers in the form of HTML pages. This is not nearly so simple as it looks. HTML is not designed to organize content; it is designed to display content. It turns out that it is a lot easier to retrieve and parse XML files - and in particular, RSS files. Sites that do this are called 'aggregators', and today's new breed of aggregators is focusing almost exclusively on RSS files.

RSS was used to good advantage by Netscape, but a major problem with the My Netscape directory was that users could not view the actual RSS files - Netscape would only let readers access the site summaries through its portal. The same was also true of another repository, My Userland,[xix] the portal application for the Scripting News Format discussed above. But RSS files may be located through yet another repository, XMLTree.Com,[xx] which indexes a wide variety of XML and RSS files. Launched early in 1999, the site has grown over the last year to include thousands of sites sorted by category.

### *4. Uses for Content Syndication*

Although the easiest and most obvious use for content syndication is in the production of relatively current lists of news links on a given topic, RSS developers are beginning to perceive that a wide range of uses will be possible. In a document released in September, 2000, Ian Graham and Benet Devereux suggest the following[xxi]:

- New bulletins or news summaries, currently largely distributed using a simple XML dialect called RSS. An examples of this is My Netscape.
- Web site content replication or distribution (often done using tools such as rdist, which is Rdist is a program to maintain identical copies of files over multiple hosts.[xxii]

- Database-related content distribution, such as gathering event calendar data for use in a local calendar.
- Gnutella-like file/resource sharing services. This is a serve where multiple copies of the same file (for example, a music video) are located on different servers, with syndication information being used to facilitate retrieval.
- Dmoz.org-like catalogues. The Mozilla Open Directory project is a human-created directory of Web-accessible resources. This directory is available as an open -source archive (in RDF), and is integrated into many other Web cataloguing systems (for example, Google or Lycos).
- The HEML (Historical Event Markup and Linking) Project[xxiii]. This is a project aimed at creating a world wide collection of history-research related XML resources, with each academic research group being able to create their own resources, which can then be syndicated and distributed amongst the different institutions.
- To aggregate proprietary scientific data, as described by David Detlefsen.[xxiv]

As Graham and Devereux point out, in each of these cases, “one organization publishes 'origin' data and makes it available in some form, and another organization downloads the data and processes the data to integrate it in some way into their own database or application.”

## Part Two: Content Syndication and Online Learning

*5. The MuniMall Project*

MuniMall, a project funded by Alberta Municipal Affairs, was intended to provide a common services and information platform for people working in Alberta’s municipal sector. It would provide resources, learning and points of contact to elected officials, municipal administrators, and students of municipal government.

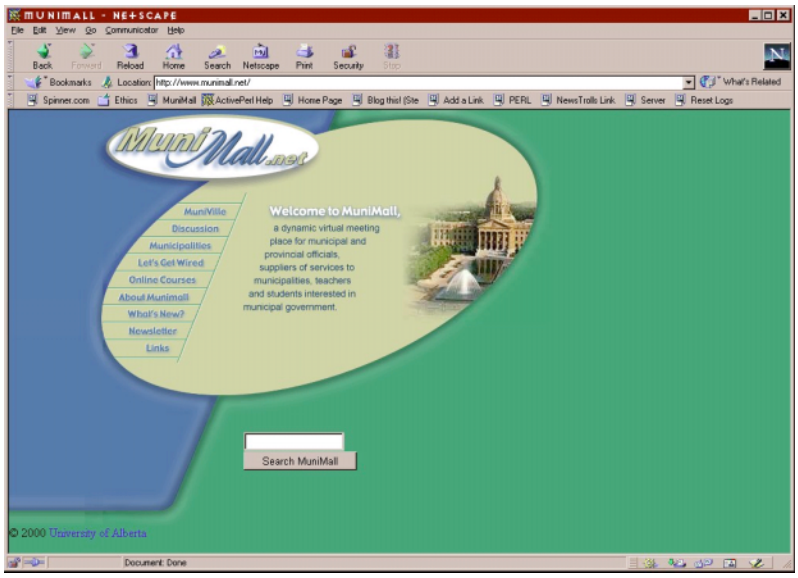


*Figure 4: MuniMall Home Page*

As such, it was intended to be what has since come to be called an "online community of interest" or "vertical community." The original design was modeled on the concept of online community as described in Hegel and Armstrong's *Net Gain.*[xxv] At that time, the concept of content syndication had yet to reach the mainstream; it was envisioned as a portal for all things municipal in Alberta.

Because MuniMall was perceived to be a threat to existing services (and especially websites hosted by the Alberta Urban Municipalities Association and the Alberta Association of Municipal Districts and Counties), the commercial aspects of MuniMall were quickly removed and the website was re-purposed to provide a strictly educational function.[xxvi] To enhance its value as an educational site, MuniMall would include, in addition to resources and links to resources, an online simulation of a municipal website, MuniVille, to act as a training tool.

The removal of the commercial component probably doomed the project to failure: one the one hand, when government funding runs out (as it will in the spring of 2001), the project will be unsustainable. But more importantly, to act as the locus of a community of interest, the site would have had to be able to link to and contain information about *all* aspects of the community; to draw an artificial boundary around the content MuniMall is 'allowed' to have and that which is not is to limit its effectiveness as a community of interest.

As a research project, however, MuniMall remains invaluable. Unlike most work in the fields of online learning and online community development, MuniMall had an explicit mandate to *merge* educational content with information and resources used by the community of practice. In other words, MuniMall would be a tool used by municipal administrators in the course of their day to day activities, and at the same time, function as a teaching tool for students in the Government Studies certificate program.

The next three sections will describe three approaches taken to accomplish this.

*6. Content Syndication*

The first area of integration looked at by the MuniMall team focused on the resources used by both students and administrators. In particular, Alberta Municipal Affairs has over the years developed a Handbook for Municipal Administrators. This handbook contains detailed instructions on how to conduct a municipal election, draft and pass a by-law, approve building permits, and more. The Handbook, in turn, refers extensively to legislation and regulations governing the conduct of municipal affairs in Alberta.

Although an important – indeed, essential – resource, the Handbook was paper-based and not available online anywhere at all. It was maintained, as many similar Handbooks are, as a set of loose-leaf inserts into a massive binder. Periodically, updates would be issued from Municipal Affairs; these updates would be delivered to individual municipalities and also to the Government Studies program, where they would (sometimes) be placed into the binder.

An examination of the Handbook also revealed that it was out of date and in many ways redundant or internally contradictory. The maintenance of the Handbook was a major task for staff at Alberta Municipal Affairs, and the output was of minimal usefulness to practitioners in the field.

MuniMall proposed that the content of the Handbook be placed online and syndicated. Placing the content online would mean that it could be updated online, through a forms processing system, and thus, much of the time and expense in maintenance would be eliminated. Syndication, moreover, would allow the same (always up-to-date) document to be used in a wide variety of locations: and in particular, in online courses, in the MuniMall portal listing, and as help for any online forms or documents employed by municipalities.

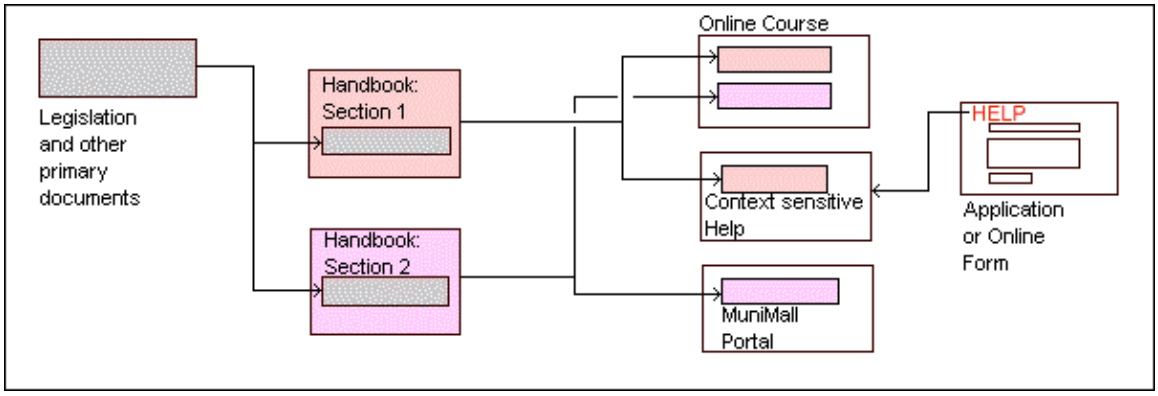


*Figure 5: Content Data Flow*

In the end, this model of content syndication was never put into place. Several major obstacles emerged:

First, the Handbook was (as mentioned above) in a considerable state if disrepair and would have required extensive revision, a task in which Alberta Municipal

Affairs was unwilling to engage (as events transpired, they instead launched an extensive ‘Best Practices’ initiative which may have as a final outcome a content syndication model as described here). Moreover, Alberta Municipal Affairs had no mechanism for assigning authority or responsibility for the upkeep of the Handbook.

Second, it was not clear that MuniMall, or even Municipal Affairs, could get permission to distribute the content of relevant legislation as described. Copyright over the legislation is held by the Queen’s Printer, which currently returns revenues to the provincial government through its printing service.

And third, even were the content available, there was no place to put it. The online course design for the Government Studies program adopted a mixed mode of delivery, with the course outline and discussion occurring online, but with course materials distributed as part of a paper-base package.

A modified version of content syndication was instead employed in the MuniVille to serve as a demonstration of how a similar technique could be employed by local governments for the wide distribution of documents and information. The MuniVille website consists of a set of topical pages, such as ‘Industry’, ‘Recreation’ and ‘Restaurants’. Content in each of these pages is updated via an online form, and the content is available for insertion into multiple pages. Thus, for example, a real estate agency could draw upon the community website to provide up to date demographic information; the municipal website could in turn draw from a real estate agent’s site an index of new listings.

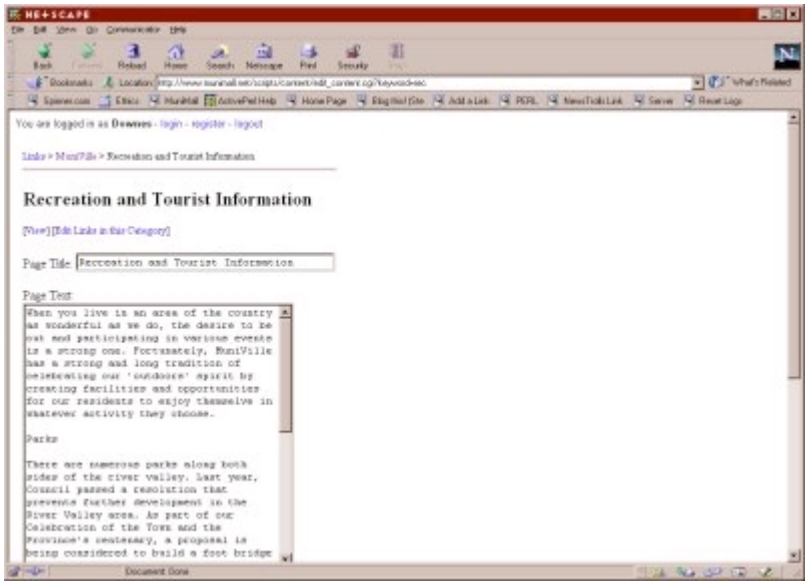


*Figure 6: Content Input Window*


*Figure 7: Content Display Window*

*7. Link Syndication*

As part of its mandate to provide resources and information, MuniMall developed a portal of links relevant to Municipal administrators and elected officials. To date, more than 1200 resources have been added to the portal, with more being added each day. Links are entered into a common database and then displayed in a set of topic-based pages, much like traditional portals such as Yahoo.

The idea behind the link syndication system was to act as a means of accessing resources that could not be stored as web pages on MuniMall itself. The most common type of these resources is the external link; MuniMall staff added a large number of links and MuniMall users were encouraged, through an online submission form, to submit their own links.  Three major categories of links emerged: links that dealt with specific municipalities, link which addressed aspects of municipal governance (especially as it related to the provision of online services), and links that related to some aspect of a community (in other words, links that correspond to one of the topic-based pages in the simulation).

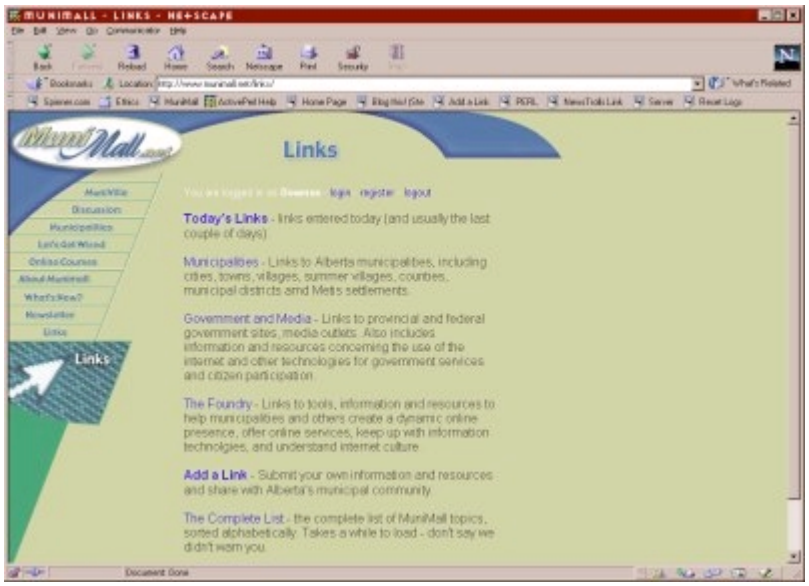


*Figure 8: Links Display in a Portal*

In order to facilitate this system of link syndication, four systems were developed over-and-above the link submission forms and syndicated output. First, an automatic categorization tool was developed to sort the links as they were submitted. Second, an automatic link-retrieval engine (similar to a web crawler) called Grasshopper was built. Third, a link editing tool was created. And finally, a search tool or “drill” was added to the system.

Although stored in a common database, these link lists are available to multiple web pages. As new links are processed, output files in both RSS and JS are produced (the JS file is a server side Javascript file which can be used by any HTML page without special processing). Thus, the same list of links can be used in the MuniMall portal and also (for applicable categories) in the MuniVille simulation.

*Figure 9: Links Display in MuniVille Simulation*

The system was originally designed to allow for up-to-date resource lists to be used in online courses as well. Ideally, both students and people working in the field of municipal affairs would submit links. These links would then be embedded in a WebCT course page (using the single-line Javascript command to embed the content).

To date, however, the link system has functioned mostly as a portal. Part of this is due to the fact that the tools are not as reliable as would be liked (the editor, for example, still has some major bugs in it). Part of it is due to the fact that there has not been a consistent and useful flow of content into the system – such a system needs multiple contributors, and more importantly, contributors expert in the field of enquiry. And part of it has been due to the fact that, other than the "today's links" page and MuniVille, there has been no place to display the syndicated content.

*8. Discussion Syndication*

As MuniMall was intended to foster an online community, a forum for discussion and communication was essential. To this end, a discussion list program (Allaire Forums) was added to the site, where it sat – empty.

It became apparent that the discussion forum had to be seated much more closely to the main content; indeed, the discussion forum had to *be* a part of the main content. Once again, the idea was that posts, lists of posts, and list of discussion topics should be syndicated, so that they were available to a large number of web pages.

Because no discussion list program currently offers this feature, a specialized discussion list program was developed and used in place of Allaire Forums. The program – CList – provides output in RSS and JS as well as HTML. In addition, CList, like many other discussion list programs, allows email notification as well (in other words, if the user selects the option, the program will send an email message when somebody adds another post to the discussion).

Discussion on the MuniMall site still languishes; the two threads today have a combined 17 posts. Indeed, the most effective use of CList has not been on MuniMall at all, but rather, on my personal home page, where I used the discussion list program to format and display articles – like this one – on one website, while using the JS feed to list and link to the articles on another one, my main home page. And even in this system, discussion is minimal.

Part of the reason for the ineffectiveness of the discussion tool is the low traffic. Although, starting September 2000, the tool was employed in one of the Online Courses; it is accessed only as an external link, and not embedded in the course content as designed. In addition, on both MuniMall and on my home page, traffic is low, proving once again that a certain level of traffic is necessary in order to sustain a discussion board. Third, there has been no concentrated attempt to

foster discussion: no events have been scheduled, no course requirements for discussion, no moderation or introductory articles. And finally, the sort of people who use MuniMall are just the sort of people who do not have time to engage in unfocussed online discussions.

*9. Why Things Didn't Work*

I am standing before you and saying that, in three major areas of content syndication, the MuniMall project failed. As I suggested above, perhaps it was doomed to failure in any case because of the segregation of its potential audience. But it also failed as a result of a number of structural flaws. These flaws are worth investigating, especially when placed against an area of substantial success, yet to be discussed.

First and foremost, I think, an entity like MuniMall cannot exist in isolation. Like any form of syndication, it needs content at the input end, and it needs recipients at the output end. MuniMall suffered from shortfalls on both ends.

Input:

- commercial and provider content was banned from the site almost immediately
- government content, such as the Handbook, the manual, and even web site contents, was not forthcoming
- there is a dearth of subject matter experts (or even knowledgeable participants) providing links, articles, discussion list posts and other materials

Some of this could have been addressed through better management. For example, a coordinated campaign to generate user contributions might have helped. Course professors should have been recruited to provide expert commentary. Students should have been recruited to provide discussion.

But in the absence of the more substantial content – especially content the target audience really wanted, such as business contacts and government documents – MuniMall was bound to suffer.

Output:

no external sites used MuniMall as a content source

A syndication site that cannot market its materials anywhere is a site which is in deep difficulty. Obvious locations for syndicated content would have included the online courses, community and government sites, and the AUMA and AAMD&C sites.

These problems are indicative of a second and deeper cause for the difficulties faced by MuniMall. The project, from its inception, ran counter to two major features of information networks:

First, the market was just too small. And as Metcalfe's law states that the value of a network increases exponentially with an increase in the number of participants, its corollary, which I'll call Downes's law, states that the value of a network *decreases* exponentially as the number of members decreases. A variety of factors, structural, organizational, personal and political, led to successive reductions in the numbers of people using MuniMall, and this led to its exponential decrease as a network.

Second, prospective participants in the network didn't participate (in other words, the size of the network decreases), an instance of Downes's second law of networks, which is, that the value of a network decreases exponentially as the size of the network decreases. As the associations, the commercial entities, online courses, and the governments were removed from the network, the value of the network collapsed.

*10. A Success Story: The MuniMall Newsletter*

The MuniMall Newsletter was launched in September, 1999, and circulation has grown steadily since that launch date (it now stands at 359, about a quarter of the total market population). It is widely read, often printed and distributed in municipal offices, commented upon favorably at conventions and in research studies.[xxvii]

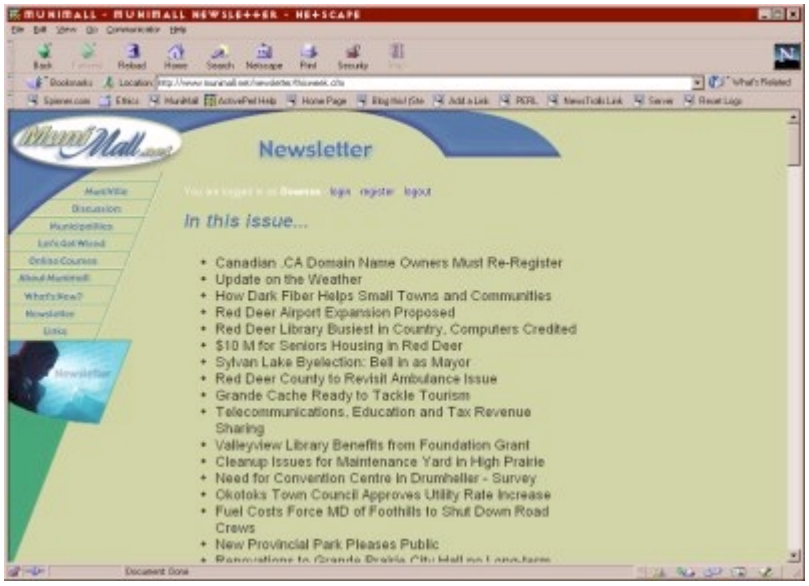


*Figure 10: MuniMall Newsletter*

The MuniMall newsletter is an example of syndication in action. Published once a week, it contains links to websites and articles of relevance to municipal administrators and elected officials. It draws from oft-ignored sources, such as local newspapers and government press releases, and presents this list of links, each with a short description, as a weekly email message. The newsletter is also

published on the MuniMall site, and as Items are added to the site, the “What’s New” page is automatically updated.


*Figure 11: What’s New Display*

The MuniMall newsletter address the two major weaknesses identified in the previous section.

First, it has content. The typical newsletter is a collection of links from external sources and articles produced by MuniMall staff. Moreover, this content is highly filtered, designed to reflect the specific interests of the community it targets. Such highly filtered content is possible only if some form of syndication is employed, whether the process is implemented automatically or by hand.

The Newsletter, in other word, incorporates the first two of the three types of syndicated content described above: it contains textual content, in the form of articles, and it contains resources, in the form of links. In only the third form of content – online discussion – is the Newsletter lacking, though there is every reason to believe that with better content filtering and integration, a discussion component would be a useful addition (as it is in so many list services around the world).

Second, it has recipients. The MuniMall newsletter circumvents the usual channels for syndication, bypassing websites almost altogether, by being placed directly into readers’ email in-boxes. Because it is an email newsletter, it is easy to read (people tend to use email a lot more than they tend to use a particular website), and because it provides a list of filtered resources, it is easy to use.

The MuniMall Newsletter thus offers two of the best features of content syndication: content and convenience.

*11. All Together Now: Doing Educational Content Syndication Right*

What can be learned about content syndication in the educational domain from the MuniMall example?

First, and not trivially: it is technically feasible. Using the tools described in this paper (or tools which are becoming widely available on the internet) any course (or program of courses) or any online learning application can tap into up-to-date resources from remote sources, and tap into them in such a way that content is tailored specifically for the course in question.

But second, and also not trivially: because content syndication requires the development of a network, the practices and politics of building networks must be observed. Especially where the syndication network is breaking new ground (which today, is everywhere), the ground rules and principles of participation must be laid out in advance of any development.

Because, third, a content syndication network needs content, and in an educational setting, it needs authoritative content, which means that the providers of that content – whether they be government agencies, university professors, or professional associations – must be on board and willing to provide that content.

Of course, this is a two-way street: fourth, no content provider can go it alone. The reason for this is clear: in our examination of the municipal sector, we found dozens of agencies which provide authoritative content of one sort or another, agencies such as newspapers, community websites, research institutions, multiple government departments, a dozen professional associations, and more.

Fifth, there must be an audience, which means that at least as much care must be taken to present content in contextually useful situations as is taken in gathering the content to begin with. Even less comprehensive content – such as found in the MuniMall Newsletter – can be widely used if it is presented in an attractive format; conversely, even the best content will not be used if it is not accessible. The mechanisms employed by the Newsletter, including content filtering and a gentle push, tell us what an attractive format is likely to look like.

And sixth, although the temptation is often to start small – a pilot course, a pilot class – in endeavors which depend on a network phenomenon, it is best to start with as large a set of participants as possible. A large network may be scaled back or subdivided if it becomes unwieldy, but a small network may never get off the ground because the interactions upon which it depends are not there.

# Factors Influencing Attrition Rates in a Corporate Distance Education Program

by Harold Henke and Joanne Russum

## Introduction: Attrition is a Persistent Problem

Distance education has evolved greatly in the past decade, from paper based correspondence courses, to televised (or video taped) courses, to Computer Based Training, to web based courses, to interactive multimedia such as streaming video, each changing the way students participate in education. Whatever the format or distribution method, attrition has always been an issue. Attrition is also known as the drop out rate or non-completion rate, which can be defined as the number of students who had enrolled in a course but do not fulfill all the course requirements nor complete the course. The attrition issues in distance education suggest the following questions:

1. Why do students not complete the courses?
2. What can be done to decrease the attrition rate?

Distance education is not limited to K-12 and higher education; distance education has gained popularity in the corporate world as well. This is because distance education offers increased efficiency and reduced cost for both the student and their employers (Hall, 1997, Khan, 1997, and Zolkos, 1999). An employer no longer has to pay transportation and lodging costs to send an employee to training, instead they can take an online course and receive similar instruction that they would in a face-to-face class. As the corporate world embraces distance education as a means to provide employee training, attrition rates are an important issue because training is perceived as not only a method to improve job satisfaction but also a method to improve the competitiveness of the corporation. If students do not complete the course, not only is valuable time lost but the student has lost the opportunity to acquire needed skills required by the corporation.

Many corporations are finding that there is no significant difference in learning performance whether in distance education or in face-to-face courses just as there is no significant difference in higher education institutions (Russell, 1998 and Zolkos, 1999). One important difference between distance education in the corporate world and higher education is that training, whether distance education or face-to-face, is often a requirement to maintain or enhance job opportunities whereas in higher education, distance education is often, optional. An employee in a corporation must have the appropriate training to do their job, whereas a university student could opt to take another course or switch to a different college program. Therefore, in the corporate world, education is often mandatory for job performance and not completing a course can impact the employee's job rating and future career opportunities.

**Research: Goals**

The goals of this research were to:

1. Determine the attrition rates for two distance education courses.
2. Compare the attrition rates of these courses with other corporate and higher education distance education programs.
3. Identify the reasons for attrition by collecting data from students.
4. Suggest methods based on analysis of the data to reduce student attrition.

## Attrition Rates: Reasons

For as long as there have been distance education courses, researchers have tried to pinpoint reasons for student attrition. Researchers determined that the decision to complete a distance education course depends on a variety of interrelated factors such as age, marital status, educational level, and gender, which are particular to an individual's context. (Morgan, 1999). Other factors that have been investigated as causes of attrition included number of courses and source of financial aid (Parker, 1999). Furthermore, the potential for a student to successfully complete a distance education course also depends upon specific student characteristics that have been identified as indicators of potential success: 1) being a self-starter; 2) being self-disciplined; 3) being knowledgeable of the technology requirements of the specific format; 4) being able to meet other students and faculty in a virtual environment; and 5) wanting more control over learning environment. (Roblyer, 1999 and Wade, 1999). While these individual characteristics are important, it does not mean that there are not similarities in the reasons groups of students decide not to complete their courses.

Numerous studies have been conducted regarding attrition rates and reasons for attrition in distance education, but the majority of studies were conducted with data from higher education programs. This could be because corporations are less likely to openly acknowledge their attrition rates or otherwise divulge information that could benefit their competitors. Therefore the majority of the research cited in this paper is based on distance education courses conducted within higher education settings.

Distance education students are recognized to have a higher attrition rate than traditional students, (Thompson, 1997 and Phipps & Merisotis, 1999), although there has been much debate over the cause and how the attrition rates are calculated. Some universities do not consider a student who drops out during the official add/drop period as a part of their attrition rates, whereas other institutions consider any student who had enrolled, but not completed the course as part of their attrition rate. The Chronicle of Higher Education reported "No national statistics exist yet about how many students complete distance education programs or courses, but anecdotal evidence and studies by individual institutions suggest that course completion and program retention rates are generally lower in distance education courses than in their face-to-face counterparts" (Carr, 2000, p.A39). This suggests that 'industry standards' or accurate statistics on attrition are difficult to locate or non-existent.

A recent study on the difference between an Internet based Introduction to Computing Fundamentals course and a traditional correspondence course by the Open University in the United Kingdom conducted by Carswell et al. in 1998 found that attrition rates in the traditional correspondence course and the Internet based course were similar. The attrition rate in the Internet based course was 20% and the correspondence course was 16%, both of which were comparable to other Open University undergraduate courses. (Carswell et al., 2000, p36). Carswell, et al. stated that the distance format did not affect the overall attrition rate as the difference between the Internet and correspondence course was not significant.

Another study conducted in Illinois found that in their community college system, the Illinois Virtual Campus (IVC) network, some community colleges are reporting attrition rates greater than 20% when compared to their traditional classroom attrition rates. At Elgin Community College, 64% of the students completed distance education courses, compared to 83% who completed traditional classroom courses and Moraine Community College reported that for some distance education courses, the attrition rate reached up to 70% of the students (Breslin, 2000).

The American Institute for Chartered Property Casualty Underwriters (CPCU) and the Insurance Institute of America completed their first Internet based training classes in the spring of 1999 and reported that their results were similar to those of online learners in all subject matter areas. They reported that in some classes there was an attrition rate of up to 50%, but that the students who completed the class liked the online approach, learned the material, and spoke highly of the experience, despite the attrition rates. (Zolkos, 1999).

This research suggests that higher attrition rates for distance education courses are common, but the majority of researchers do not provide conclusive reasons for the attrition rates. Some of the reasons suggested were demographics, such as the student's age and maturity level, but also time, and how experienced the instructor was with teaching online. (Carr, 2000). In general though, there is a lack of validated variables or frameworks to measure attrition within distance education courses (Sheets, 1992, Thompson, 1997 and Parker, 1999).

Phipps and Merisotis (2000, p. 21) identified 24 benchmarks needed to ensure a successful Internet- based, distance education course and identified one missing benchmark as attrition. The authors noted that in interviews with six higher education institutions, attrition was mentioned as an issue and the authors stated that "student attrition in Internet-based distance education courses is an important research topic in the evaluation and assessment…" of distance education courses.

## Background Information: Advanced Skills Program

The Advanced Skills and Professional Development department was formed in November, 1998 for the purpose of increasing the skills of the IBM Printing System Division personnel who provide post-sales support for the solutions that IBM Printing System Division provides it's customers. These solutions are combinations of physical hardware (printers and/or servers) and printing software (print management, formatting

etc.) that are installed in the customer's environment to provide complete print management.

## Course Descriptions: Distance Education Offerings

The Applied Skills and Professional Development department has offered two distance education courses: Infoprint Manager Overview and Printing Fundamentals course to over 3,900 IBM employees worldwide using Lotus LearningSpace for development and deployment. Lotus LearningSpace is a complete and flexible e-learning platform that is able to deliver self-directed, asynchronous collaboration and/or "virtual classroom learning" experience. LearningSpace can be delivered via the World Wide Web or Lotus Notes and is scalable, meaning LearningSpace can be located on a single server or in multi-server configurations, thus permitting either a single section or multiple sections of the same course to be taught at the same time.

These courses are delivered exclusively via Lotus Notes on the IBM Intranet for these reasons:

- Ease of use and familiarity as students also use Lotus Notes for their e-mail. The course content is delivered as databases which the students are familiar with from using e-mail and other company applications, such as Human Resources.
- Enhanced security as enrollment and access to course material is controlled by Lotus Notes security functions.
- Availability to course material is 24 hours a day, 7 days a week, thus ensuring students can access the course material at anytime, in any time zone.

The students enrolled in the courses are required to download the courses onto their workstation or laptop via Lotus Notes and complete the course material and quizzes in a required amount of time. With successful completion of the courses, the student's training records are updated and they are sent a certificate of completion.

*Table 1 Course Descriptions*

| Course Description | Duration, Time to Complete, Enrollment, and Delivery Method |
|---|---|
| **Printing Fundamentals**: overview of printing industry and history of printing technology. Prerequisite for Infoprint Manager Overview. The courses includes online exercises, class discussions, reference materials, web links, and quizzes as part of the course materials. Students must successfully complete all quizzes. | Three weeks in duration and estimated time to complete is 24 hours.<br>Enrollment: typically 30 to 60 students with approximately 30 to 50% of students from outside of North America.<br>Delivered via Intranet using Lotus Learning Space and Lotus Notes |
| **Infoprint Manager Overview**: overview of Infoprint Manager software including functions and features. Prerequisite for instructor lead courses on Infoprint Manager. The courses includes online exercises, class discussions, reference materials, web links, and quizzes as part of the course materials. Students must successfully complete all quizzes and a final examination. | Two weeks in duration and estimated 16 hours to complete.<br>Enrollment: typically 20 to 60 students with approximately 30 to 50% of students from outside of North America.<br>Delivered via Intranet using Lotus Learning Space and Lotus Notes. |

## Courses: Attrition Rates

Attrition is defined for our purposes as: students who did not download the course, downloaded the course but did not complete any units, and students who failed to complete all quizzes and/or final examinations. The attrition rates for the two distance education courses are for a period of nine months:

*Table 2 Course Attrition Rates*

| Course | Attrition Rate |
|---|---|
| Printing Fundamentals | 23% |
| Infoprint Manager Overview | 19% |

While the overall attrition rate range, from 19 to 23%, is not as high other distance education courses cited in this paper and given that there are no existing standards for attrition rates in either corporate or higher education, the attrition rate was still considered an issue as these courses were prerequisites for other courses. Thus if a student did not complete these courses, they could not take a follow on course in the program curriculum.

Furthermore, given the program mission of improving employee skills, if employees do not complete the courses, then they have not received training that is essential to job performance, which directly effects customer satisfaction. Consequently, improvement in attrition rates is not only beneficial to the education program, the student, but also to the

corporate goal of improved job performance, improved employee skills, and customer satisfaction.

## Survey: Strategy

To gather student opinions and preferences, IBM commonly uses electronic surveys delivered via the World Wide Web or Lotus Notes with a high degree of success; therefore this format was chosen to distribute a survey to the employees who did not complete the courses. As stated earlier, students outside of North America who enrolled in the courses represented approximately 30 to 50 percent of all enrolled students and these students were from Asia, Europe, Central America, Latin America, and North America. Therefore, the survey would need to be sent to students, world-wide.

In selecting a survey tool and distribution method, the ability to contact students world wide was important and a common factor was that each student has access to Lotus Notes. For this reason, Lotus Notes was chosen as the tool to develop and distribute the survey. Paper surveys were ruled out as it would be expensive to mail the surveys world wide and would take much longer to obtain responses. With electronic surveys, responses are usually received within 24 hours. Phone survey was ruled out because of expense and difficulty in reaching students in multiple time zones. Selective phone interviews were conducted to both validate the survey data sent via e-mail and to improve response rates as recommended by Salant and Dillman (1994).

## Survey: Design

Possible topics for the survey questions were identified from a variety of sources: instructor feedback, student comments during the course, student end of course survey, and research in the field of distance education.

The student feedback came from an end of course student survey where students were asked a number of questions on the distance education course they had completed. All comments and feedback are then compiled into a course report, which is stored in a department database on Lotus Notes. From these sources of information, the possible areas of interest identified were download problems, time constraints, language skills, relevancy to their position, prior computer based learning experiences, and reason for taking the course. It is important to remember that these issues were concerns to students who had completed the course, whereas those who did not complete the courses did not have an opportunity to offer any input as they did not complete the end of course survey nor posted any comments during the course.

Following survey design and processes recommend by Salant & Dillman (1994), Preece, et al. (1994), and Shneiderman (1998), the survey questions were written using a Likert Scale to measure student opinions. The proposed survey questions were distributed to the Advanced Skills and Education department and after review comments were completed, an electronic survey was written using Lotus Notes Designer. The electronic survey was tested for ease of use and completeness by the Advanced Skills and Education department. After revising the electronic survey, the survey was distributed via Lotus Notes to the 62 students who had not completed a course. The survey was titled ‘Distance

Education Survey' and did not contain the words attrition to avoid offending any of the employees who did not complete the course by labeling them 'drop-outs'. The complete survey is presented in Appendix A: Distance Education Survey.

In addition to the survey, telephone interviews were conducted by randomly selecting one in every six students including students located world-wide. The purpose of the telephone interview was twofold:

1. Validate student responses received via electronic survey. Another advantage of phone interviews was to provide students with a method to provide comments that they would not provide with the electronic survey.
2. Improve response rate.

The students were asked the same set of questions in the mail survey and if they had any additional comments that they would like to make. The results of the telephone interviews were disappointing. The majority of the employees that had enrolled in the course were Customer Engineers and they generally do not work in an office, but rather on site at customer locations. Therefore they are often difficult to reach via telephone. An e-mail was sent to those employees who had been randomly selected and who were off-site asking them to respond and this e-mail led to a few additional phone interviews.

In addition to phone interviews, an e-mail was sent two weeks after the survey was distributed to those students who had not responded asking them to respond. This e-mail provided a few more responses but in general, the phone interviews and follow-up e-mail did not elicit many responses.

### Survey: Response Rate

Here are the survey response rates:

- A total of 62 students were surveyed and 35 responses were received for a response rate of 56%.
- Of the 35 responses, 8 responses or 23% were received from students who resided outside of North America.

Salant and Dillman (1994) recommended a minimum of 60 to 70% for any survey but to achieve this rate, Salant and Dillman stated repeated follow-up via e-mail and telephone is required. For this survey, given the lack of response to the telephone survey and follow-up e-mail, it was unlikely that any additional responses would be received.

**Survey: Results**

| Question (See Appendix A for answer scale) | Results (N=35) |
|---|---|
| Q1. Were you able to successfully install the LearningSpace Courses? | Yes=80%; No=6%; Did not attempt=14% |
| Q2. Do you believe the time it took to install the LearningSpace course databases was acceptable? | Mean: 3.20 or 64% |
| Q3. Do you believe you had sufficient time to complete the course given your work schedule? | Mean: 2.44 or 49% |
| Q4. Do you believe your manager provided you with the necessary time to complete this course? | Mean: 3.11 or 62% |
| Q5. Did you work on the course at home, work, or both? | Home=15%; Work=27%; Both=58% |
| Q6. Do you believe the course took more time to complete than anticipated? | Mean: 2.97 or 59% |
| Q7. Do you believe the course content was relevant to your job? | Mean: 3.70 or 74% |
| Q8. How would you prefer to take this course? | LearningSpace=64%; Classroom=29%; WWW=0%; CBT=7% |
| Q9. Have you completed any other courses via distance learning such as using a Computer Based Training package, LearningSpace, or World Wide Web. | CBT=15; LearningSpace=13; WWW=8. (Number of total responses) |
| Q10. Do you believe the course was more difficult than anticipated? | Mean: 2.82 or 56% |
| Q11. Do you believe this course would be easier to complete if the content was in your native language? | Mean: 3.29 or 66% |
| Q12. Do you believe the reason you were enrolled in the course was clear? | Mean: 3.64 or 73% |

## Survey Results: Correlation and Descriptive Data

Data analysis was conducted using Microsoft Excel's Data Tools Correlation function to determine if there was a linear relationship between the following variables:

- Q2=**Instime** (time to install the course materials)
- Q3=**Comptime** (sufficient time to complete the course)
- Q4=**Mantime** (manager provided time to complete the course)
- Q6=**Time** (took more time to complete course)
- Q7=**Relv** (course relevant to work)
- Q10=**Diff** (course more difficult to complete than anticipated)
- Q11=**Lang** (easier to complete if in native language)
- Q12=Reas (reason for enrollment was clear)

Correlation analysis was conducted on these variables and no significant relationships were shown to exist between any variables. Some variables (**instime** and **comptime**; **comptime** and **mantime**) indicated a positive

relationship but the strength of the relationship was not significant enough to state any conclusions.

The following descriptive data was generated using Microsoft Excel's Descriptive Statistical function:

*Table 3 Descriptive Data*

| | ***Instime*** | ***Comptime*** | ***Mantime*** | ***Time*** | ***Relv*** | ***Diff*** | ***Lang*** | ***Reas*** |
|---|---|---|---|---|---|---|---|---|
| **Mean** | 3.205882 | 2.441176 | 3.117647 | 2.970588 | 3.705882 | 2.823529 | 3.294118 | 3.647059 |
| **Median** | 3 | 2 | 3 | 3 | 4 | 3 | 3 | 4 |
| **Mode** | 4 | 2 | 3 | 3 | 4 | 3 | 3 | 4 |
| **Standard Deviation** | 1.148897 | 1.235612 | 0.977464 | 0.717119 | 0.718981 | 0.626224 | 0.759961 | 0.917254 |
| **Standard Error** | 0.197034 | 0.211906 | 0.167634 | 0.122985 | 0.123304 | 0.107397 | 0.130332 | 0.157308 |

## Survey: Discussion

Before the survey was distributed, the following questions were postulated:

- Student dissatisfaction with the time to download would be very high based on comments students had provided in end of course surveys. It was assumed that this dissatisfaction would be a source of attrition for the courses.
- Students would want the course materials in their own language. Students where English is not their first language have commented that the course materials would be easier to read, given the technical nature of the material, if the material could be presented in their language. The students also believed that they could complete the course quicker if the material was in their language.

The survey data presented some interesting data points:

- 36% of students found the time to download the courses as unacceptable; this relatively low percentage was surprising as some students use modems (as opposed to higher speed connections available in offices and plant sites) to download the courses which can take almost three hours. It was anticipated this number would be much higher and would be a cause of attrition but 80 percent of the students had downloaded the course material successfully. Therefore, the time it took to download the course material was not a factor in student attrition though the time to download is a source of student dissatisfaction.

- 66% of students agreed that the course would be easier to complete if the course material was in their language but the data is misleading because the data, when broken out for the eight students who resided outside of North America, clearly indicated their preference for material in their language. This also matches student comments from the end-of-course surveys.

- 15% of students completed their coursework at home and 58% completed their coursework at both home and work. It was assumed that students completed the coursework at work not at their home. But since 51% of the students felt they did not have sufficient time to complete the course, it can be assumed that their working on coursework at home may reflect a lack of time to complete coursework during work hours.

- 74% of students felt the course was relevant to their jobs; so the course content was not a factor in attrition rates.

- Student comments from the survey and from the telephone interviews indicated that the primary reason for not completing the course was because of conflicts with work schedules.

## Recommendations: Proposed Solutions to Reduce Attrition

Based on the data gathered, here are some proposed solutions to reduce the attrition rate:

- Provide additional links throughout the course content to a glossary to provide definitions of technical terminology to help all students, but especially students where English is not their first language. Additionally, we are investigating providing access to language translation dictionaries directly from the course.
- Extend the duration of the courses to provide students with more time to complete the courses; currently the courses are two and three weeks in duration. Extending the courses might enable students to spread the coursework out and may improve attrition rate but would have to be compared to the tradeoff of teaching a course longer which can impact the ability to update the course and frequency of scheduled courses.
- Promote the concept to both students and their managers of viewing the distance education courses as "virtual classrooms" and ask that students be given time to complete the coursework in the same manner as if they went to a traditional, instructor-led, classroom course.
- Permit students, on a student-by-student basis, to "temporary drop-out" out of one section of a course and then start another section of the course. Since we offer sections of the courses, almost every month, students can stop at one point and then start back at that point in another section. We do not encourage this as since we are promoting a virtual class, it is somewhat disruptive for a student to drop out of one section and then join another section but this does seem effective in reducing attrition.
- Reduce the file size of course material to help reduce the time it takes to download the courses onto student workstations or laptops. Even though a majority of students were able to download the courses and the time it takes to download the courses was not a significant factor in attrition, we believe that making it easier to download the courses might provide an incremental improvement in the attrition rate and would also improve overall student satisfaction.

## Appendix A: Distance Education Survey

| | |
|---|---|
| Were you able to successfully install the LearningSpace Courses? | Yes, No, Did Not Attempt |
| Do you believe the time it took to install the LearningSpace course databases was acceptable? | Strongly Agree, Agree, Neither, Disagree, Strongly Disagree |
| Do you believe you had sufficient time to complete the course given your works schedule? | Strongly Agree, Agree, Neither, Disagree, Strongly Disagree |
| Do you believe your manager provided you with the necessary time to complete this course? | Strongly Agree, Agree, Neither, Disagree, Strongly Disagree |
| Did you work on the course at home, work, or both? | Home, work, both |
| Do you believe the course took more time to complete than anticipated? | Strongly Agree, Agree, Neither, Disagree, Strongly Disagree |
| Do you believe the course content was relevant to your job? | Strongly Agree, Agree, Neither, Disagree, Strongly Disagree |
| How would you prefer to take this course? | Lotus LearningSpace, Classroom, World Wide Web, Computer Based Training |
| Have you completed any other courses via distance learning such as using a Computer Based Training package, a CD ROM, or from the World Wide Web. | Lotus LearningSpace, World Wide Web, Computer Based Training |
| Do you believe the course was more difficult that anticipated? | Strongly Agree, Agree, Neither, Disagree, Strongly Disagree |
| Do you believe this course would be easier to complete if the content was in your native language? | Strongly Agree, Agree, Neither, Disagree, Strongly Disagree |
| Do you believe the reason you were enrolled in the course was clear? | Strongly Agree, Agree, Neither, Disagree, Strongly Disagree |
| Comments: | Write in comments from students |

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# GOOD CONNECTIONS

Strategies to Maximize Student Engagement throughout the Duration of Web-based Courses

by Mary I. Dereshiwsky and Eugene R. Moan

## Introduction

Encouraging student involvement is one of the ultimate objectives of effective instructors. Ongoing student participation is essential in a classroom characterized by maximally beneficial learning.

Nowhere is the challenge for student engagement greater than in the Web-based course. The lack of periodic face-to-face interaction may deprive the instructor of traditional visual and verbal cues of student withdrawal. At the same time, active student involvement is particularly crucial in Web-based coursework which is especially dependent upon student motivation and initiative for successful learning.

A number of barriers to student engagement in Web-based coursework have been identified by researchers. Baumgartner (2000) notes the general tendency to resist change and innovation. Bischoff (2000) attributes online attrition to student isolation, the accelerated pace of online courses, competing responsibilities faced by the typical online student, and technical problems experienced by students. According to Palloff and Pratt (1999), barriers to student participation include information overload, anxiety related to the different nature of online communication, related concerns about privacy issues and exposure with regard to externally posted online communication, and technical difficulties. With regard to the timing of communication in cyberspace, Badger (2000) notes that the asynchronous nature of message exchange can discourage student involvement due to its relative lack of immediacy. Sometimes withdrawal occurs as a result of student misconceptions regarding the distance-mediated classroom and how it differs from traditional face-to-face instruction (Dereshiwsky, 1999).

This paper identifies a number of ways that Web-course instructors can actively engage student participation and involvement throughout the semester. Specific activities are suggested, along with their relative time frame for implementation. These are illustrated in Table 1 and discussed in additional detail.

<u>One to two weeks prior to the official start of the semester</u>. NAU's Office of Teaching and Learning Effectiveness (OTLE) mails a CD-ROM (1999, Northern Arizona University Academic Computing Help Desk) and welcome letter to all first-time NAUOnline Web course students. This CD contains a variety of slide show presentations on course orientation topics. These include the minimum PC hardware specifications required for the course, as well as sources of help with

technical problems. The welcome letter contains the e-mail address and telephone number of OTLE personnel.

**Table 1.**

**Time Series of Web Course Student Engagement Strategies**

| Time Period | Activity Initiated with Students |
|---|---|
| Approximately 1-2 weeks before official semester start date | Startup CD-ROM and welcome letter mailed to all first-time online students<br>Online syllabus updated with current due dates |
| First week of semester | Students send initial e-mail message containing alternative contact information (i.e., telephone number(s), FAX number(s), mailing address(es) to instructor<br>Students are expected to familiarize themselves with the course Website (no other assignments are officially due) |
| Second week of semester | First assignment, a Web search activity using different search engines, is due |
| Approximately once a week | A cluster of online assignments is due via e-mail or Website submission with the following requirements:<br>1. One point is deducted for each day an assignment is submitted past the due date for the first 5 days;<br>2. Assignments more than 5 days late are not accepted or graded |
| Approximately twice a week | A newsletter is sent out to all online students containing:<br>1. Important updates and changes;<br>2. Personal announcements and kudos;<br>3. Closing positive-thinking stories, poems, and/or quotes. |
| Approximately once a month | Student self-report is due via e-mail:<br>1. what's working OK;<br>2. what's not working OK; and<br>3. initial suggestions on resolving any reported problems |
| At end of the semester (advanced doctoral research courses only) | Final paper (doctoral research proposal) which is a compilation of previous individual assignments is due |

One to two weeks prior to the official start of the semester. NAU's Office of Teaching and Learning Effectiveness (OTLE) mails a CD-ROM (1999, Northern Arizona University Academic Computing Help Desk) and welcome letter to all first-time NAUOnline Web course students. This CD contains a variety of slide show presentations on course orientation topics. These include the minimum PC hardware specifications required for the course, as well as sources of help with technical problems. The welcome letter contains the e-mail address and telephone number of OTLE personnel.

At approximately the same time, the instructor updates the course syllabus posted on the Website. The syllabus prominently displays instructor contact information such as telephone and FAX numbers and mailing address. It also repeats the telephone numbers for technical support which are also provided in the welcome-aboard CD-ROM. This updated syllabus contains the current due dates for assignments for the upcoming semester.

These materials are intended to get online students in a back-to-school mindset akin to that of the traditional live classroom. They serve to remind students that there are things they can do to be maximally prepared for the official start of the course. Both the mailed CD-ROM and the posted syllabus are designed to anticipate and answer many questions students may have about the course, both technical and content-related. By carefully reviewing these materials beforehand, students are maximizing their readiness for a beneficial learning experience to come.

First week of semester. During this kickoff week, students are expected to actively engage in a variety of startup activities. No other assignments are officially due during this time. This is intended to provide students with ample opportunity to become comfortable with the setup and expectations of the online course.

For the first activity, students are required to e-mail their instructor with their contact information (i.e., telephone number(s), FAX number(s), and mailing address(es)). This initial requirement serves several functions. For one thing, it enables the student to practice e-mailing his/her instructor and receiving a reply. This serves as a valuable road test of the student's selected Internet service provider and e-mail address. In case of technical difficulties, there is still ample time and opportunity to troubleshoot without the student feeling hopelessly behind in the course. The alternative contact information is also helpful for the instructor to archive in case of temporary loss of e-mail or Internet access. This enables the instructor and student to stay connected despite such glitches. Finally, this activity is intended as the online equivalent of physically attending a live group class and introducing oneself to one's instructor.

Students are also encouraged to use this first week to begin to download their course materials from the Website. These consist of a series of learning modules, supplementary advanced readings, and related assignments. The syllabus encourages students to print these out and place them in a binder with

tabbed dividers to separate the related materials. This is akin to students going to a campus bookstore to purchase their required textbooks during the first few days of class.

The preceding startup activities are intended to reinforce the notion that the semester has begun, along with attendant obligations to get started, for online students. Such activities are designed to simulate the informational exchanges that might occur in a typical initial live group class meeting.

Second week of semester. The first assignment for all NAUOnline students, regardless of specific course, consists of a Web search activity. Students are asked to input a search string pertinent to their respective course, such as "qualitative research" or "research design," using two or more different Web search engines (i.e., Yahoo, WebCrawler, Netscape). For each search engine, students are required to summarize the number and types of located Websites, or hits. They are also asked to compare the results of the different search engines used. Finally, they are asked to locate and provide a one-paragraph summary of a Website that relates to the search string and also is of interest to them. In locating this relevant Website, they are asked to speculate on how the Web search activity can be streamlined in order to ensure fewer and more directly relevant hits pertaining to one's desired topic. This first assignment is intended to encourage student practice with the Web tools and procedures necessary for success in the course.

Approximately once a week for the duration of the semester. Due dates for clusters of related assignments pertaining to each learning module are purposefully staggered throughout the semester. These due dates occur on average once a week—usually on Mondays or Fridays—and are posted in the online syllabus. Assignments are to be submitted electronically by 5:00 p.m. Mountain Standard Time on the date listed in the syllabus. The particular means of submission varies for each individual assignment and is stated in the related instructions. It can include direct e-mail, posting in the Virtual Conference Center (VCC) online bulletin board, or submission via the text box on the course Website.

The syllabus also states that: (1) one point will be automatically deducted for each day the assignment is submitted past the due date for the first five days; and (2) assignments which are submitted more than five days past the due date will not be accepted or graded and will receive a grade of zero points.

Such periodic due dates encourage students to remain actively engaged in the course throughout the semester. In this manner, they also serve as a hedge against procrastination or the temptation to manufacture excuses. As Schweizer (1999) put it: "The distance learning equivalent to 'the dog ate my homework' is 'the dog chewed my cable connection,' 'the server was down,' or 'I worked five hours, got ready to save and close and my work disappeared.' (pg. 76)."

Some students may be currently enrolled in a mix of online and traditional face-to-face classes. As assignments, papers and tests in the traditional classes become due, the temptation may be great to let their online course obligations

slide. This invariably results in a feeling of being overwhelmed and falling more and more behind in the online course as the semester progresses.

Staggering the course expectations in this manner reinforces the cumulative nature of the learning process for online students. They realize that in order to complete the course successfully, they must periodically engage and interact with the course materials, the instructor, and one another in the case of group projects.

Approximately twice a week for the duration of the semester. An important aspect of maintaining student engagement is maintaining a visible instructor presence. This can admittedly be a challenge in the online classroom due to the lack of required periodic face-to-face group meetings.

One way to maintain a continual student-instructor connection is via a listserv. A newsletter is sent to all students approximately twice a week. This newsletter typically contains the following items:

1. Important updates;
2. Announcements regarding the students such as congratulations on a new job or new baby;
3. A cluster of closing positive-thinking stories, poems or quotes with a central theme.

This newsletter has turned out to be a popular and even much-anticipated part of online coursework. Students appreciate the relative speed and efficiency with which important informational updates can be conveyed. The personal touches conveyed in the individual kudos and positive-thinking closing stories act as a further inducement to keep them logging in every other day or so.

Approximately once a month for the duration of the semester. Nothing can dampen motivation faster than an unexpected problem. Furthermore, little problems have a way of mushrooming into big problems if allowed to fester. Both of these can cause a student to give up in frustration.

The online atmosphere is sadly conducive to students simply disappearing from view. It is easier to hide online than in the traditional classroom with its required periodic face-to-face group meetings. Web-course instructors must therefore be particularly attuned to even indirect signals of student frustration and imminent disengagement.

One way to do this is via required periodic e-mail updates. Students are required to provide their instructor with a monthly progress report. This takes the form of an e-mail message containing the following components:

1. What's working well for the student thus far;
2. What's not working so well; i.e., any problems or concerns;

3. In the case of such problems or concerns, the student's initial thoughts on how he/she can begin to improve these in positive partnership with the instructor.

The above progress reports are due to the instructor by 5:00 p.m. on the dates shown in the syllabus. These due dates occur at approximately one-month intervals. The required progress reports comprise a stated percentage of the overall course grade. This can be as much as 20% of the grade for required master's-level courses, or a lesser percentage for upper-level doctoral electives.

Requiring students to check in with these monthly self-reports possesses a number of advantages. These include the following:

1. The e-mail updates are a documentable and equivalent proxy for monitoring attendance, since e-mail messages are externally date- and time-stamped to verify their transmission;
2. The report of what's working well serves to remind students of successes and improvements—all too easy to forget when encountering a thorny problem—which help to boost students' self-confidence and increase their motivation to persist in the course;
3. The report of problems enables the instructor to go to work in immediate partnership with the student to resolve manageable difficulties before they become too overwhelming;
4. Finally, requiring students to propose tentative solutions along with any problems reported serves to remind them that sharing such problems is only one-half of the task at hand. The other half involves a willingness to seek and implement solutions in good faith designed to reduce problems and improve their overall experience in the course.

Admittedly, these periodic self-reports generate even more e-mail for the online instructor to review. On the one hand, as Simon (2000) notes, "Trying to respond to each [piece of] correspondence by each student could grind you into pine-nut powder (pg. 77)." At the same time, a personal reply briefly acknowledging and summarizing the periodic student self-report can pay huge dividends in building individual student-instructor rapport. Schweizer (1999) notes the message conveyed in such an individualized reply, particularly "…us[ing] first names when responding to students' comments or work assignments. This personal touch instantaneously creates a sense of 'She's talking to ME!' (pg. 70, emphasis in original)." This direct connection between student and instructor helps dispel the concerns of isolation with regard to online study. In addition, acknowledging any problems reported by the student also enables the instructor to go to work immediately in positive partnership on their resolution. This may involve implementing the student's own suggestions in his/her periodic self-report, or jointly brainstorming additional alternative solutions to try. In either case, the immediacy of action

and instructor interest in improving the problem both serve as an antidote to potential student withdrawal in frustration.

At end of semester (advanced doctoral-level online research courses). Online students in both Research Design and Qualitative Research are expected to produce a final paper at the end of the semester. This paper, which constitutes a defensible doctoral research proposal, is due on the last day of the semester.

Instead of being a stand-alone assignment, however, this final paper is a step-by-step compilation of a number of individual assignments that are due throughout the semester. Such individual assignments include drafting one's research questions and hypotheses; identifying the related design methodology; drafting a population and sampling narrative; and composing samples of related instrumentation (i.e., survey and/or interview questions).

The step-by-step nature of assembly of these elements into the doctoral proposal serves as an incentive for students to actively engage in the individual assignments leading up to the final paper. By doing so, students receive their instructor's feedback on the individual components of the paper. This essentially gives them a valuable second chance to revise and resubmit those components, incorporating their instructor's suggestions, in the body of the final paper. Another benefit of this sequential assembly strategy is that it tends to make the final paper less overwhelming in nature. Students are less likely to be faced with writer's block at the end of the semester when they realize they have in fact been working on the key components of the final paper all along.

## Concluding Comments

According to a popular maxim, "Inch by inch, life is a cinch. Yard by yard is when it gets hard." Tackling the unfamiliar environment of the Web classroom can be a daunting prospect, particularly for novice online students. The stresses of adapting to this new teaching-learning environment, coupled with the often hectic pace of life for typical Web-course students, can sometimes cause students to give up too soon. On the other hand, students who are actively engaged in a time series of relevant and interactive online activities are more likely to experience the maximal benefits of the instructional environment. Initial successes lead to greater initiative and motivation to persist. This in turn boosts students' self confidence as well as their ability to master the content material. With careful planning of such activities, the Web-course instructor truly becomes a partner in learning with his or her students via this leading-edge method of instructional interaction. As a result, the Web classroom can become what it was always intended to become: a viable alternative format of individualized teaching and learning at its finest.

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# The Most Powerful Educational System in the World with No One in Charge: **The Impact of Commercial Television**

Theodore W. Frick

Wake up America! The next time you hear on the news that a child intentionally kills somebody with a gun, ask yourself, "Now where did he learn to solve his problems like that?"

## Introduction

In the past decade there have been strong political pressures to change the American educational system. The business sector has become especially interested because the U.S. is no longer the dominant competitor in an increasingly global marketplace. This translates into lost dollars in potential profits, the bottom line. Countries such as Japan and Germany are mentioned frequently in recent comparisons. The business community is saying that students who are coming out of the public educational system are not well enough prepared, and that is why U.S. business and industry is losing its competitive edge. Business and political leaders are pointing their fingers at the public American educational system. Reform, restructuring, and transformation of the public schools are part of the current rhetoric.

I agree that significant change in the American educational system is needed. The problem is that we are not also focussing on the most powerful part, the part which is exerting the most influence on American citizens. That part is not the public schools. Instead, my contention is that the most powerful part of our current educational system is mediated by commercial television. The problem is that no one is really in control of this part of the educational system, and very few if any educational reformers are addressing it seriously.

## Foundations

What does it mean to educate?

To 'educate' is to guide or lead those who want to learn, i.e., follow the lead. To educate there must be a teacher, a student, content and a context. If we are talking about the part of our educational system that occurs in traditional public schools, then the teachers are college-educated adults who are professionally licensed; the students are children and young adults between the ages of 5 and 18; the content is comprised of subjects such as language arts, arithmetic, history, science, algebra, English, biology, geography, music, art, etc.; and the context is classrooms inside of school buildings in a community school district.

To be sure, the public school systems are one part of the American educational system. A more significant part of the American educational system is being

largely ignored in current educational reform efforts. This part of the system is more powerful and enduring, affecting nearly all of us. I don't know what to call it just yet. It usually operates 24 hours a day, seven days a week, 52 weeks a year, with the subject matter typically changing every 30 to 60 minutes on numerous cable channels. Most American citizens, including the young and old alike, participate in this part of the educational system. Many of us spend as much or more time engaged with -- i.e., paying attention to -- messages coming from television sets as we do in our jobs, at school, or at play.

We are the students in this TV-mediated part of our educational system. While we are being entertained, we are also learning from the messages and teachers on television. We may not think we are learning anything, but the evidence is overwhelming that we do.

The budget in this part of the educational system is based on commercial advertising revenues. One of the main content areas taught is the subject of consumption. The content is more often geared toward development of attitudes, values and emotions than it is toward acquisition of knowledge. We are taught to want things -- so that we will buy and receive more of those advertised products and services, with the expectation that we will feel good as a result. The same commercials appear repeatedly on many different TV channels. As we flip from one cable channel to another with our remote controls we are likely, at any given time, to encounter commercial messages on several of the various channels. Indeed, we are much more likely to encounter the same commercial airing at the same time on two different channels than we are to win the lottery.

We also learn from the stories told, enacted, or coming to us live between the commercials. Telling stories around the campfire in ancient times has been replaced with the television in modern times. In ancient times story telling, drama and enactment by demonstration were primary methods of educating the young, prior to the invention of writing and reading.

The revenues from advertising help to pay, often quite handsomely, the teachers on TV who are well-known story tellers, athletes, singers, comedians, politicians and actors such as Morley Safer, Madonna, Candice Bergen, Michael Jordan, Michael Jackson, Tom Brokaw, Bill Cosby, Jack Nicklaus, Charles Kuralt, Bill Clinton and Barbara Walters.

The context of this TV-mediated part of our educational system is often the living rooms, bedrooms and dens of our homes -- wherever we can comfortably watch and listen. But the context also includes hotel rooms, bars, department stores, and waiting rooms. And we can take battery-operated portable TV's just about anywhere.

## The Success of the TV-Mediated Part of Our Educational System

We can evaluate the success of education by determining how well students have followed the lead. Let's look at some of the results, not at student test scores in academic subjects such as math and reading, but how well the public

at large has carried out its "assignments." We have learned to consume more, so much so that we too often overindulge; we cannot find enough places to put the leftover waste; and we have bought so many things on credit that we are indebted to the hilt -- not only as individuals but as a nation. We are exhausting natural resources to feed our consumption wants, faster than any other nation in the world and faster than those resources can be replaced or renewed.

We have also become a more violent people -- hurting others and ourselves more than before. Murders, assaults, rape, destruction of property and thefts have increased to the point that our jails are overflowing and our legal system is jammed with criminal cases. I do not believe that this is a coincidence. Look at all the violence on TV, the models we are exposed to as "students." Shootings, explosions, car crashes and fights occur all too often on TV. In sporting events, the message is to defeat our opponent to gain the spoils of victory. While we don't see rape on TV, sexual messages are often embedded implicitly in many commercial advertisements and TV shows. So why are we surprised that these things also occur in real life?

The educational research on student engagement is pretty clear. Students tend to learn more in subjects they spend more time on. Yes, it is difficult to establish cause and effect here, between time spent watching TV and consumption and violence -- just as it is difficult to establish a causal link between smoking of cigarettes and lung cancer. But we should not let that stop us from acting sensibly when there are obvious indicators of the relation. Most physicians and life insurance companies are convinced of the relation between smoking and lung cancer, even though causality is difficult to prove scientifically.

In the late spring of 1992, Vice-President Quayle disputed the message sent from an episode of a TV sit-com, Murphy Brown, in which she chose to give birth to a child out of wedlock and raise the child as a single parent. While I disagree with Quayle's faulty moral reasoning, I nonetheless use his reaction as an example of the realization of the educational impact of television. I believe that Quayle is correct about that. I too am concerned about what is being taught and learned as well, and that is why I write this piece.

Bill Clinton, when running for President in 1992, understood the educational impact of television. About a month before the Democratic National Convention, he began to televise unrehearsed question-and-answer sessions on issues raised by members of audiences who were chosen by a neutral third party. He even did so on MTV, in an attempt to reach the younger generation. Clinton was attempting to educate voters on the important issues facing this country and his plans for dealing with them. His choice of format indicated his awareness that the issues are too complicated for representation by sound bites in the typical 30-second political campaign advertisements on TV.

Perhaps the greatest argument supporting the effectiveness of the TV-mediated part of our educational system is the fact that many large businesses continue to advertise their products and services. I find it hard to believe that such people, whose primary motive is to make money, would continue to invest literally billions

of dollars in advertising if they did not have clear evidence that it works. Apparently their messages are being received and acted upon by the television audience in sufficient numbers to make such advertising a worthwhile investment.

If the commercial advertisements are so educationally effective, then it is also likely that what happens between the commercials is having an educational impact on America. TV commercials and shows are what the public and private school part of our educational system is competing with, and it would appear that the TV-mediated part of our educational system is doing a better job of inculcating values and attitudes. Commercial television is reaching many more students, not just those who attend school between ages of 5 and 18. And the TV-mediated part of our educational system is reaching more people more of the time: evenings, nights, weekends and summers, as well as during the daytime for those not in school or work.

So, it would appear that the private sector has succeeded in creating a more effective part of our educational system than that of the public schools. Unfortunately, the private enterprise system has shot itself in the foot. It is not satisfied with the knowledge, skills and values held by the students who have been educated in part under its own influence through television. The business community on one hand talks to public school educators about the need for a work ethic, yet the message sent through TV advertisements is to consume, take it easy, and enjoy the good life.

I am not claiming that all of what is presented on commercial TV is not good from an educational point of view. News media coverage of health issues such as AIDS and problems with destruction of our environment have been educationally very worthwhile, for example. As another example, the American public learned a great deal about sexual harassment from Anita Hill and others who testified in the U.S. Senate subcommittee hearings concerning Judge Clarence Thomas for appointment to the Supreme Court. I also laud the Discovery Channel for its efforts in educating the public. And I support non-commercial public television. Bill Moyers is one of my favorite teachers on PBS.

What I am worried about is that, in general, commercial television has become like a runaway horse -- it is out of control and we don't know where it might go. The main purpose of any educational system should be to select the best of culture for sharing with future generations, so that they will not repeat so many of our past mistakes and will further improve the quality of life.

## The Problem: No One Is in Control

The part of the American educational system which is TV-mediated is not under any real leadership with respect to its educational mission. Commercial advertisers want TV shows that attract a lot of viewers. TV executives in turn decide what shows to broadcast by surveying their audience (e.g., Nielson ratings). One might conclude that this is democracy in action. It may very well be democratic, but the blind are leading the blind.

What the majority wants for entertainment is not necessarily good for them from an educational point of view. So we have a downward spiral here -- commercial advertisers are fairly successful in convincing people to want to buy what they have to sell. And what attracts larger TV audiences is not in the hands of business but those of an increasingly less well-educated public. In effect, no one is in control of the situation, exercising true educational leadership.

The role of teachers should be to select the best of culture for sharing with the next generation. While there are notable exceptions, most TV teachers and their script writers are forced to operate within narrow constraints, because their "principals" (i.e., TV executives) know where their "bread is buttered." If their shows lose mass appeal, then they will lose their commercial sponsors.

If profit, consumption and sensory stimulation continue to be the major values which determine the content of TV, which is a major and powerful educational agent, then America is likely to continue this downward spiral. Other important values are being neglected.

Who is going to stand up and take a leadership role? And how can they do so, if the TV media are controlled by the economics of big business advertisers and consumer entertainment demands? Other less "developed" countries should take heed, or history will repeat itself in these nations as well.

I am not against free enterprise. I support it to the extent it does not harm people and society as a whole. I am alarmed at the influence of the part of our educational system which is mediated by commercial television. I am not trying to get public schools off the hook either. Reform is needed in both arenas. If reform is to be truly systemic, as many are arguing it should be, then the whole educational system must be addressed. The whole system includes both the public school sector and the part mediated by commercial television. If big business points the finger at the failures of public school systems, then it should also point the finger at itself for its own role in promoting consumerism and violence at the expense of inculcating wisdom.

Wake up America! The next time you hear on the news that a child intentionally kills somebody with a gun, ask yourself, "Now where did he learn to solve his problems like that?"

Instead of pointing fingers or guns, let's together figure out a way to do something constructive to solve the whole problem in American education, and not focus solely on the school systems. Commercial television is part of the problem and cannot be allowed to ignore its own role in educating the American public.

See web page for Related Links:
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Last updated by T. W. Frick, 2/10/2000. Internet address: frick@indiana.edu

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(Last revised in October, 1992)

# The Writings of Guy Bensusan

Many of us have followed the writings of Dr. Guy Bensusan for a long time. Others are just discovering him. He is a frequent contributor to the DEOS listserv, and freely shares his rich experience and philosophy. Over the years, Ed Journal has published a number of his articles. He has given his kind permission to publish these each month starting with his writings of about five years ago.

His philosophy and practice have continued to grow with the advent of new technology and the acceptance of distance learning as a viable and effective alternative to traditional methods of teaching. He is the master teacher, leading us into new paradigms of teaching and learning. Through these writings he will take us on a journey of exploration and discussion. He will show us how to motivate students and achieve results with anywhere-anytime collaborative learning that are the envy of most classroom teachers.

The *Bensusan Method* is enriching the lives of tens of thousands of students. Ed Journal is grateful to have Dr. Bensusan present this series of articles each month so that you, your colleagues, and your students can enjoy and benefit from his experience.

## Chapter C-2

Options help students with access limits and inequities

by Guy Bensusan

When all course members are on the same campus, the one who can get to the library first has the best and broadest opportunity to check out the needed books and materials. The second student to arrive gets what the first one left on the shelves, and the third is either out of luck, or must be highly creative in searching out and finding what has been catalogued in a different manner. We might honor the learning that this last student acquires, but that is not the equity principle we are talking about here.

Of course, the professor can alleviate and improve these conditions by putting the necessary readings on short-period reserve, or the library can make it possible for each student to make a photocopy in accord with current copyright regulations. But other than that, many if not most students will not be able to get at the information they need, or rather, that they supposedly need. I say "supposedly," because I have watched and listened to many students find ingenious circumventions, that is, learn how to get around the requirements. I did it myself in graduate school, when the demands exceeded the possibilities and time frames. We professors have not usually expressed concern about the potential inequities in our traditional methods, perhaps rationalizing that "the early bird gets, in this case, the reading material," which may be an underlying national ethic.

But these are not birds, national or otherwise; they are students, learners paying for their learning and their eventual degree. When we take into consideration what this idea means in a changing student demography and ever-more competitive educational market, it would seem that the competitive conviction is out of place and will not hold water much longer. Students who believe they are not getting what they pay for can and will "leak out" or move on to other educational providers who will accommodate them. We already see this in the programs that employers create within their corporate entities. The arrogant affirmation that the "really serious students will come to study with us and will do what we tell them because we know best," demonstrates how out-of-touch with the extra-mural real-world many professors are.

When I first began teaching full-time, ninety-seven of the students enrolled were just-out-of-high-school, and two were "older." We were all in the same classroom. In that situation, I could treat almost everyone alike or nearly alike, hovering over the "kids," and letting the two "adults" have some latitude in what they did.

The world may have changed drastically since then, but I still see many professors assuming all students are alike and treating the ones with more complicated responsibilities in the same fashion as the others. It does not work and our assumptions are erroneous. Many younger students have requirements

that limit their options. In the total-equality teaching game, everyone is supposed to do the same thing at the same time for the grading to be "fair." What an absurd myth?

As I examine the array of students in the courses I teach, they range in age from eighteen to seventy-five; many are parents, grandparents, and great-grandparents. Some are retired professionals; others are preparing themselves for second or third careers. Nearly all work at some type of full time job, the part-timers often juggling several positions, and the retirees often doing extensive volunteer work. Many work at night or all night; those with sick children must tend them; everyone has accidents and family emergencies from time to time, and with the many variations in culture and religion, plus expectations from traditional tribal or clan requirements, as well as such matters as holy days for non-Christian religions, there is no possibility for equity and equality of situation among all students. We know that and yet the contradiction in our daily lives is that we profess to value diversity and then clearly disprove the avowal by acting as if nothing exists but conformity.

Students taking my courses live in many different communities across the state of Arizona. Some of them move to Flagstaff during the school year and attend classes in that community. This group ordinarily will represent somewhere between one-fourth and one-third of the entire number. The rest live in or near the other fourteen community classrooms that are inter-connected by Interactive Instructional Television on NAUNet --- next year we will have twenty-seven sites. The one-fourth to one-third of the students in Flagstaff see me "live" in the classroom (though they can also watch the class at home or in the dorm via Cable Channel). They can come to my office to talk with me, they see me in the supermarket, at the gas station and at the cleaners. They stop and talk, often about some class matter. I am available.

What about the other two-thirds to three-quarters of the students? Is there equity of access to the professor, to his time, to being able to gain a personal sense of who he is and where he is coming from? Of course not. The only way they can get at me is before or after class over television, or by phone, or by leaving a message on my office answering machine. It is certainly not the same either in quality or in quantity, and the costs are higher in time and money, because the phone-call is long distance.

Now in one sense this may not matter, because extensive distance learning research suggests that students in distance learning sites learn just as well as those on campus. I have personally found this to be true, but even so, I travel to each distant site at least once during the semester, and students tell me they enjoy the human contact, and become more involved in classroom discussion after the visit. We used to think that the difference was because those more mature, "non-traditional" students were more highly motivated than the younger ones, but now that community students graduate from high school, go through the community college and then take university courses at the electronic classrooms on the college campus, the "older, more-mature" ratios have changed.

It is clear that most of the students in my course are unable to deal with me in the same way as those who are in Flagstaff. If this results in any kind of disadvantage to them, it is a wrong that must be made right in some way. Since I cannot clone myself and be everywhere simultaneously, the obvious solution is to alter my system so that my lack of direct presence in their learning will not be harmful to them. In other words, I must reorganize how I put together the system for their learning and how I structure what they do in acquiring the information, practicing interrelating the ideas and facts with the learning models, move up the stairway with their assignments, and in general, learn how to learn on their own.

The same is true about course materials. If there is only one book in the library on campus, the student who gets there first is the one who will check it out and profit from the opportunity. If fifteen distant sites are scattered around the state, each with twenty-five students, how can they get access to the materials with any equality? Unless the library can afford to make one copy of the book available at each site, what happens to equity there? Apart from fairness, if a single litigation-minded student ever fails a course based on not being given study materials necessary to complete an assignment or test, there will be trouble?

Assuming that the truest justice lies in establishing the equities in advance, and assuming the teacher is responsible for helping learning to take place in a safe and conducive environment, it becomes apparent that we need to think and act on this most significant matter. The technology revolution has placed us in a continual flux of revolving imbalances in the matter of students acquiring equal access to library, computers, professor, help-sessions and many other perquisites that tuition and fees are supposed to cover. I have noticed, for instance, that I can no longer go through an entire semester without something having changed in the technology and the system. We used to believe and support the idea that one does not change the rules of the learning game during the semester, because what one starts should hold until the term is over.

We are not in that same place any more; it is no longer true to say that Northern Arizona University is in Flagstaff, and only in Flagstaff. It is clear to me that we will never have stasis again. The technology will always be ahead of the logistics and the thinking and we cannot wait until everyone is on an equal footing, because it will never happen. The bottom line is that the professor must consider how to help the learning of those who have paid for help NOW, THIS SEMESTER? That is also an issue of equity. Complaining about this or that will not solve the problem and postponing action merely indicates the depth of our paradigm paralysis.

As professor, I am the point-man. I must be willing to travel additional miles; I can stretch and bend my rules, make exceptions, spend extra hours, be accessible at home in the evenings and on weekends, find other ways to help students with their learning, loan my personal materials, and so on. The LEARNING of the students at all the classroom communities must be the intent and the goal?

Actions of this type which alleviate immediacy for this semester do not, of course, alter the underlying responsibility of the institution for moving ahead in providing

and reorganizing facilities, deliveries and accessibilities. This means that a student should not be penalized for missing a due date when situations in that distant site, for whatever reason, interfere with what is happening on the main campus. Likewise, if a fire alarm occurs at a distant site, one must recognize that the students are required to evacuate their building, even if class may continue at all other sites. We must clearly shift our paradigms in these matters in the same way as we do regarding the transformation from teaching to learning.

The purpose is to help students learn to learn, not just bureaucratically and arbitrarily maintain an immaculate and orderly logbook. And in rebalancing the fairness and justice in these matters, the institution and the professor both share the burden --- the professor may have to take the immediate lead, but the university also needs to be swift and scrupulous in providing the reinforcements. The best symbioses will result from professors being willing to do more and go farther because they know they have the support and the forthcoming compensation from their institution.

The fact that I now meet with more students and different students in widely separated locations also intensifies and magnifies the longstanding condition of disparity of experiences, cultures, learning styles, accesses to materials and preparation that are to be found in the same classroom. We used to resolve these by formulating highly restrictive prerequisites on the grounds that if all of the students in the class were approximately the same level, it would be easier and more efficient for us to teach them. That may work for a small graduate course of five, but for the most part, I think those days are long gone and far away and do not represent the large numbers we must and will attend to in the future. We must learn more about the diversity of our students and find ways to turn those riches into useful resources for learning.

It is also just as important to honor the students' special cultural, community and religious needs. If a devout Moslem comes to class on Friday, it is to everyone's best interest to allow that student to sit quietly in passive participation. If the presence of an American Indian student is required at a village or clan ceremony, the attendance requirement can be alternatively met by having that person watch the course videotape for that day. A teacher's flexibility, coupled with consideration for the needs of each student as a human being with his or her own needs and responsibilities is a valuable asset, since it demonstrates the humanity of the situation as applied in the learning process.

And since it not likely that we can or will ever go back to the world we are leaving behind, it may be that we need to rethink how we can use the very system we are teaching in to help us with the paradigm shift over equity. As described in the chapter, more than a Tool, such possibilities have opened up in great measure because of the way the NAU Network has linked together the fifteen classrooms in widely diverse communities across the state. Instead of being a larger bunch of students upon whom the professor may now deliver his or her lecture, a great opportunity arises to find ways to put the substance of those joined classrooms and communities to work as a way of enriching learning, of putting students into direct contact with their learning resources, of changing the role of the student

from that of recipient to that of investigator-contributor, to illustrating the reality of unequal distribution of conditions and to make it a basis for learning.

As I conduct a course on Arizona Arts and Culture to these many sites, I can reformulate my role as professor and also that of the students. I am not an expert on the arts and culture of each of the fifteen communities. I know one very well, three others reasonably well and five more rather scantily, even though I can generalize 'till-the-cows-come-home about the geography, the historical evolution and the sequence of trends and styles that came about over the centuries. In the older model of teacher-centered and content-centered teaching then, I might not even be regarded as being competent to teach the course.

However, when I look at it through the current paradigm shift to learning or learner-centered teaching, a different world emerges both for me and for the students. I have developed over the years a rather good comprehension of the overall subject from both the historical and the arts-culture points of view. I know how to go into new communities and regions and learn about their heritages, arts and culture, and I have traveled about the state enough and have sufficient contacts in my field that I do not have to start from scratch in any new location. I also know how to teach in a learner-centered manner.

Therefore, I can put together workable learning programs for students in each of the areas by formulating questions and procedures whereby each group can perform tasks related to their communities, that contribute productively when we meet at class time. A basic foundation is the relationship of local geographic realities to the arts and culture in each place and the specific influence of resources available to the earliest peoples in establishing the various arts themselves, and also of the underlying concepts and ideas about shapes, colors, and textures that become their historical heritages.

The job of students at each site then, is first to read the general overview in the textbook and discuss it in class, and then investigate the relationship of geography and early arts, structures, and ways of life in their respective communities. What they learn will need to be organized and brought to class for presentation and discussion, and students from all fifteen can participate in the learning through all of the techniques of comparing, contrasting, examining implications and so on. Everyone will learn from each other and the professor will no longer be the sole source of information.

In this situation, we will be dealing with simultaneous examination of features such as geography, arts and culture, where students can perceive interaction among students from different sites collecting information from each presentation. Guiding the multiple comparisons of each site is the professor --- questioner, moderator, outside voice, fellow learner, fellow explorer, fellow discoverer, and most important, the keeper of encouragement and support.

In the new picture, that has shifted focus from the center to the periphery, we can see the struggle in our search for suitable terminology to match the new concepts for learning; should we call this thing "distance learning," "distributed learning" or "decentralized learning"? Each name carries implications about teaching and

learning. Where is the teacher, what is the job of the teacher, where is the learner, where does learning take place, what is the relationship of where the teacher is to where the learner is and to where the learning resources are? Instead of the "poor student who lives so far away from the resources of our magnificent library," we will sing a different tune. Might it be that it is the professor and student on the main campus who can now be viewed as the ones who are culturally deprived, located so far from all the other studies, and needing to learn about them on television instead of in our own back yard. Perhaps professorial paradigms perpetually perambulate?

We are in process. We do not know where we are going and most of our thinking relates to where we have been. What has happened in my view is that I have been provided with an extraordinary resource for a new kind of learning, made possible by the combination of technologies brought together into the creation of a larger system. In its composite assembly it creates a learning laboratory that may be used in a variety of ways for acquisition of information, exchange of ideas, experimentation, analysis, and comparing-contrasting of respective data from different places. Its potential is to bring about the establishment of new hypotheses that can be inspected, probed and tested.

We do not at this point see the whole thing, nor can we fully imagine all the new technologies and combinations about to appear. A huge system will be joined for information deliveries and exchanges via computers (all of which are possible right now) awaiting only the completion of our network infrastructure so that all of the pre-class, during-class and post-class interactions become possible over television network. Beyond that, I envision a system of learning that is fully self-contained, self-paced, self-assessing, self-directing, and self-generating. I think it is just around the corner, and since I plan to be still functional at 80, I hope to be a part of that world, helping to create the components that students can use in their search for enlightenment.

I am sure that megalithic forces of control will try to dominate the new technologies just as has happened in the past, but I also see us, ever more of us, going beyond where we have been before. We are, I believe, on the edge of a new kind of equity, a new paradigm of fairness and a new model for access --- because it is not access to the professor that counts, but rather equality of access to the opportunity for learning at one's own pace, style, need and ability.

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