

## Welcome to the Inaugural Issue of JAET

Greetings and welcome to the inaugural issue of the Journal of Applied Educational Technology (JAET). This is a joint publication of the Wheelock Press and EduQuery.com. Wheelock Press is a small regional publisher in Wheelock, Texas. EduQuery.com is an independent site for educational research. Online versions of JAET will be housed at EduQuery.com while paper copies will be printed by Wheelock Press.

The purpose of this journal is to provide useful technology information to educational professionals. We have noticed in the field of educational technology, the teachers especially need information dealing with the technology in their classrooms, primarily on effectively using the computers in school labs and classrooms. Districts spend a large portion of their budgets on training and personnel devoted to technology and computers.

This journal seeks to offer classroom teachers useful knowledge that can be immediately applied with their students. We hope to offer articles that are targeted to teachers across the spectrum of subjects and fields, and at all grade levels. We hope also this knowledge will be shared and that it will be passed along to others. We will be making it available online, and will distribute electronic versions using the PDF standard.

If you have an electronic version of the journal, we encourage you to print it out and pass it around to fellow educators. Post it in the teacher's lounge. E-mail it to other teachers. You can even cut and paste articles from it and put them in your own district newsletters, as long as you cite us as your source and use the article in full.

So, sit back and enjoy our first issue. When you are done, pass it along to somebody else and let them enjoy it too. When teachers gain useful skills and knowledge, students are benefited.



## Site List

Here are some of our favorite links for teachers. This month we focus on web-based research with some links to online journals.

Full Text Educational Journals Online:  
[www.lesley.edu/faculty/kholmes/libguides/edjournals.html](http://www.lesley.edu/faculty/kholmes/libguides/edjournals.html)

Educational Research Resources:  
[http://www.hofstra.edu/Libraries/Axinn/axinn\\_edjmlwb.cfm](http://www.hofstra.edu/Libraries/Axinn/axinn_edjmlwb.cfm)

Internet Public Library, K12 Education:  
<http://www.ipl.org/div/serials/browse/edu30.00.00/>

## Journal of Applied Educational Technology

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## Discounts ... Discounts ... Get your teacher discounts!

Barnes & Noble, Hastings, Borders, and Half-Price Books have long been known to offer discounts on purchases for teachers. Typically they'll offer a 20% discount on their books if you fill out an application and prove you are a teacher.

But don't forget to grab a deal on software, too. Microsoft has always offered teachers their software for a fraction of the retail price. Other software makers have followed suit.

### Where to find them:

You can find educator versions of software at some regular bookstores like Hastings. But don't forget to try your local university or college bookstore too. They will typically sell education versions to folks who aren't students. If you show your teacher ID (or a check stub if your school doesn't offer teacher IDs), they will go ahead and sell you the education version of their software at the discounted price. Also, you can order online from a variety of vendors. Try these:

<a href="http://www.journeyed.com">www.journeyed.com</a>	<a href="http://www.ccvsoftware.com">www.ccvsoftware.com</a>
<a href="http://www.sprysoft.com">www.sprysoft.com</a>	<a href="http://www.swsonline.com">www.swsonline.com</a>
<a href="http://www.edtech-cps.com">www.edtech-cps.com</a>	<a href="http://www.studentsoftwarediscount.com">www.studentsoftwarediscount.com</a>

## Electronic storage of documents

by John Rice

If you are like me, your garage and attic are filled with examples of student work. When it comes to products my former students created, I like to keep them. Unfortunately, over time, papers begin to take up an overwhelming amount of space. This article will address the need for compressing documents through electronic storage. It can be adapted for use in creating online student portfolios, and administrative departments can use it to digitize student records.

### What you will need:

Besides a computer, of course, you will need a scanner and the full version of Adobe Acrobat. Other software products can also be used for electronic storage (most notably the PaperPort line from Visioneer), but Acrobat is going to offer the most widely used standard for software storage. The PDF (Portable Document Format) extension is also one of the most commonly found document types on the Internet. When you create a new document by scanning student papers into Acrobat, it will be able to be viewed by anybody in the world.

The full version of Acrobat should not be confused with the Acrobat Reader, which is freely available for download on the Internet at [www.adobe.com](http://www.adobe.com). The reader is the mechanism by which people read PDF documents. The full version allows you to *make* PDF documents. The reader is free while the full version costs anywhere from \$59 to \$99 for the educational version. (For ideas on where to buy educational priced software, see the story on p.1: Discounts ... Discounts ... Get your teacher discounts!)

### Procedure:

Creating PDF documents with Acrobat is fairly straightforward. With your scanner and scanning software installed, fire up Acrobat. You are going to be creating a new document by importing a scanned document. Acrobat will automatically take what the scanner captures and import it into the PDF format.

For space considerations, you are going to want to save the resulting files at 150 or 200 dpi (dots per inch). Scanning at a lower dpi may result in jagged edges or faint lines while printing. Higher dpi scans will result in giant files that may become unwieldy after a while. A dpi of 200 is probably about right for most handwritten student papers. Unless you are scanning in artwork, you can keep the image in black and white in order to conserve space.

PDF files are large. You may want to subdivide them by class or by school year into different folders for easy management. Since you are going to want to keep the files for future reference, you should burn them to a CD if your classroom computer has a CD burner and take home a copy. Otherwise, you might try e-mailing them to your home account. If you are creating an online space for your student portfolios, you will need to upload the resulting files to your school's Web site. Within your Web page, you will want to simply list the online location of the PDF file in the HTML code.

### Tips:

- Don't forget to get student permission for future display
  - o If you have a particularly nice example of student work, you may want to show it off to colleagues. Many schools now have release forms for students and parents to sign at the beginning of the school year. If yours does not, be sure to offer one to your students so that you can display their work to others.
- Use Acrobat's OTR (Optical Text Recognition) feature to allow searching of typed documents
  - o If your students are turning in typed documents, Acrobat can perform OTR on the text making it searchable. Later, you can search for key words, topics, or student names if you want to find specifics within a student's work.
- Turn electronic submissions into PDF documents
  - o If your students are e-mailing you their homework, note that Acrobat can automatically translate electronic items into PDF without the need for scanning. Word documents and Web sites can very easily become PDF documents with a few mouse clicks.

### Extension & Adaptation

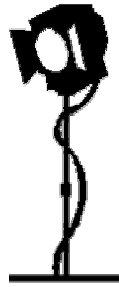
Here are some additional ideas for digitizing student documents:

- Offices can scan in student records
  - o Once old transcripts are in the computer in PDF format, office personnel can find the info much faster than the old way of digging through filing cabinets. Student records can be saved with the last name first as the file name (i.e., DOE JOHN.pdf) and stored in a separate folder. Schools can put graduates in folders named after the year they graduated. All the students graduating in that year can then be listed alphabetically by last name in the folder.
- Give students a copy
  - o Portfolios are big these days, and they provide a record of student learning, achievement, and progression. If you scan in your students' work, you can give them a CD of everything they have done for you throughout the year.
- Give the school library a copy
  - o Imagine a world where a student's work is kept in digital form indefinitely. That student goes on to become President, or significant to historians in some way. Imagine how much future historians would appreciate it if they could easily access his or her work.

*John Rice serves as a program coordinator for the Texas Center for Educational Technology*

## Teacher Spotlight

The best technology practices by educators



## Online Report Forms

by JoAnn Barcak

*How do your students handle time management? How do you prepare them for filling out job applications and information? Here is one teacher's recipe for success using electronic forms and the Internet. - Editor*

One management technique that I have created for my Family Consumer Science Career Preparation students is to complete all their report forms using the Internet. The students are required to keep all their wages and hours for credit. I have my students create a folder in their own individual directory on our school network. They then create folders for each six and put the Online report forms from my website recording information. They print their Yearly Wage and Hourly Report each six weeks. It is also a wonderful management tool for my students to learn to use. The forms are found at [www.rockdaletexas.org/~jbarcak](http://www.rockdaletexas.org/~jbarcak).

*JoAnn Barcak teaches computer applications and career preparation at Rockdale High School in Rockdale, TX*

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## How to use one computer (in a classroom with lots of students)

How fortunate is the teacher with several computers at his or her disposal. Alas, how rare is such a teacher even today at the dawn of the 21<sup>st</sup> Century. The majority of classrooms remain limited to one good computer, with trips to the lab or library necessitated for getting all of a classroom online at once. Even teachers with multiple computers usually have only one that is relatively new, the remainder consisting of older, less useful models. Here we will address the problem, and offer a few ideas for its solution.

- Create teams with a designated researcher
  - o When assigning a project that will require online research, consider dividing your students into teams to do the work. One student on the team should be designated the researcher, and he or she can search online using your computer.

## Journal of Applied Educational Technology

### Call for Articles

The Journal of Applied Educational Technology is looking for articles that address technology issues in the K12 environment. Articles should seek to solve defined technological problems within the classroom or explain current methodology by educators using technology. There is no length specification, but articles may be edited for length and clarity. Submit articles by e-mail to [jaet@eduquery.com](mailto:jaet@eduquery.com). Articles may be attached as a Microsoft Word™ document, or submitted in plain e-mail text. Articles become property of the journal. Acceptance response is typically two weeks or less.

- o If each class is divided into 4 teams, you can easily divide search time among them and they never have to leave your room to work.
- Use a digital projector or large TV for presentations
  - o When you combine a digital projector or a large TV to your computer, you can show your class what is on your computer screen. They can explore the Web with you or follow a presentation. Also, students can use electronic presentation as visual aides for their oral reports.
- Give equal access and equal time
  - o Use egg timers to divide up the time each student spends on the computer. That way, each student gets the same amount of time on the "good" machine as the previous student.
- Use as a peer-teaching/peer-learning resource
  - o There will always be at least one student in your classroom who knows more than the others about computers. Recruit that student to train others in critical skills that will be needed in your classroom. Have the newly trained students then train others so that the skills are firmly cemented.

### Site List:

Here are some great sites that offer additional tips for using one computer in a classroom:

- [www.ellendale.k12.nd.us/tsp.htm](http://www.ellendale.k12.nd.us/tsp.htm)
- [www.remcl1.k12.mi.us/bcisd/classres/onecomp.htm](http://www.remcl1.k12.mi.us/bcisd/classres/onecomp.htm)
- [www.learnsol.com/onecomp.html](http://www.learnsol.com/onecomp.html)
- <http://danenet.wicip.org/mmsd-it/tlc/1comprm.html>

Find more by searching for "one computer classroom" using your favorite online search engine.

## Interior design students accomplish mastery with the help of the Internet: Real world application of the internet inquiry instructional model

By Tod Stephens

### INTRODUCTION

I am an instructor for the Interior Design department of a design college in Tampa, FL. Most students are between the ages of 18-25 with a predominate learning style of Self Expressive (NF) (Silver, Strong & Perini, 2000, p. 26). I teach courses involving computer drafting, building systems and architectural construction. One unit of the Building Systems course involves teaching the basic functions of plumbing, air conditioning and electrical systems in buildings. My students are studying Interior Design and have little interest in the subject matter of building systems and typically are not familiar with the appearance of plumbing components, air handling units and electrical distribution equipment. I spend an extensive amount of time explaining the appearance of components so they can visualize the systems and understand how they work. Additional time is spent responding to a variety of questions from individual students. Recently, I have begun to use class time in a more effective way by using the Internet Inquiry instructional model (Leu & Leu, 2000, p.151) to allow students to answer their specific questions about plumbing and HVAC systems. They access equipment manufacturer's Web sites and Internet central directories on the topic and find the answers to their specific questions. The Internet Inquiry portion of the lesson plan occurs over a very short period of time, typically 2-3 hours. Students access Web sites, find the answers to their questions, and then share the results orally with the rest of the class. The sharing of information is crucial since there are always several students that have similar questions but did not ask. The Internet Inquiry instructional model consists of five phases: Question, Search, Analysis, Compose and Share.

### QUESTION PHASE

"During the question phase, students identify an important question they wish to explore" (Leu & Leu, 2000, p.151). There are many different scaffolding techniques that can be used in this phase, including "assigning questions to students, having students pick from a list, providing a topic area from which students can develop questions, or allowing students to develop questions of personal importance" (Canter & Associates, 2002). I give students a topic area (such as plumbing systems), and then they develop their own personal questions and find the answers during the Internet Inquiry. If they are trying to visualize what a particular piece of equipment looks like, they

can print out the information from the Internet. When they are trying to determine the proper size and dimensions of a piece of equipment, they can go to manufacturers' Web sites and find them. To understand how a piece of equipment functions, they can access educational sites to find the answer. My students have found <http://www.trane.com> useful for information on HVAC systems, <http://www.rheem.com> for plumbing systems and <http://www.squared.com> for electrical systems. There is a glut of information available on the topics my students are researching, so some guidance is needed at certain points in their research. I provide suggestions to help them filter through the large amount of data they retrieve to find relevant and meaningful information. To successfully complete the lesson, students develop "sorting and sifting questions that enable them to manage Info-Glut and Info-Garbage (the hundreds of hits and pages and files which often rise to the surface when conducting a search), culling and keeping only the information which is pertinent and useful" (FNO Press, 1997).

### SEARCH PHASE

Once students have decided on the questions they want to explore, the search phase begins. "Students may search on the Internet for useful information related to their question" (Leu & Leu, 2000, p.152). In addition to Internet access, I also make a point to have textbook and CD-ROM resources available that students can use so they benefit from using a variety of media. Some of the search strategies students can use are "beginning with directories, use search engines that prescreen material, and share and exchange search strategies" (Canter & Associates, 2002).

I give my students a list of directories that specialize in building systems and construction to help speed up their search, and a list of recommended manufacturers that I know have reliable information on their sites. Students are free to use their favorite search engines and share and exchange search strategies. It is difficult for students to get lost looking for material if they follow the guidelines that are presented to them. I have each student fill out a data sheet detailing what sites they visited, what information they found, and explain how they are going to use the information. By looking at these data sheets I am able to ascertain who needs help in their search or are having some sort of difficulty, and the sheets also provide a convenient method of assessing their work. The search phase is very useful for students since they develop reading skills, Internet navigation strategies and start the initial evaluation of the relevancy of the data they have discovered. Evaluating the relevancy of data is important at this stage so that students can decide which information should be discarded and which should be kept for the analytical phase.

### ANALYSIS PHASE

"During the third phase, analysis, students should analyze all of the information they have located and respond to the question they initially posed" (Leu & Leu, 2000, p.152). At this point,

students must take their research data, decide if it is relevant to the topic under study and make sure it adequately answers their initial questions. They must decide which data is worth keeping, if the information they found is reliable, and how they can summarize the data and present it to others. Part of this analysis involves making sure that the Web site where they found the information is reliable. They can do this by finding out who created the site, what organizations were involved in assembling the information on the site, and looking at the ending of the URL to see if the site is commercial, educational or governmental.

Other information that can help is reviewing the "about this site" link that most sites have, determining the date a site was created and last updated, finding the purpose of the site and checking any references that are listed. I help my students with some of this information because I have prescreened several sites for their use and have already ascertained that they are reliable sources of information. At this stage, students may have to ask themselves clarifying questions to make sure they are finding the proper answer to their original questions.

"Sometimes, this will lead students to address another question they discover to be more important than their initial question" (Leu & Leu, 2000, p.152). If this is the case, I will recommend that they repeat the search and analysis phases of the Internet Inquiry. To assess student progress during the analysis phase I have them cite two references for any major claims or factual data they find on the Internet. Looking at these data sheets I am able to ascertain who needs help in their analysis of information and make sure that their findings are accurate.

## COMPOSE PHASE

"The fourth phase requires students to compose a presentation of their work" (Leu & Leu, 2000, p.152). Examples of work that students can compose are "creating a PowerPoint presentation, producing a video" (Canter & Associates, 2002) or "a poster session, traditional written report or an oral report" (Leu & Leu, 2000, p.152). I keep this phase rather brief due to a limited amount of class time, and only have the students create a simple written report summarizing their findings using Microsoft Word. If an instructor can extend the lesson over several classes, additional time can be spent on more sophisticated forms of presentation. I incorporate multimedia and video presentations into the design projects we have in class, and use the Internet Inquiry model as a method for learning course content and cultivating research and literacy skills. I am more interested in having my students share the information with each other so they can all benefit from the independent research that has been done by their peers.

## SHARE PHASE

"During the final phase, share, students have an opportunity to share their work with others and respond to questions about their work" (Leu & Leu, 2000, p.152). They can share their research by "posting work on a classroom Web page, give an

oral report or presenting a multimedia slide show" (Canter & Associates, 2002). I require a brief oral report from each student to summarize their findings. They share mostly factual information about equipment and have print-outs and visual aids to show their results. The entire class benefits immensely from learning the information other students have found. Twenty students doing independent research presents a much larger amount of information than I would be able to give in a lecture in front of the class. The information they learn allows them to better visualize the building systems we are studying and allows them to incorporate the equipment into the floor plans of their building designs. This sharing activity is similar to incorporating the Internet Workshop instructional model (Leu & Leu, 2000, p.138) into the study unit. The workshop session "supports students' ability to acquire information from the Internet, learn about the topic they are studying and think critically about the information they, and others, obtain" (Leu & Leu, 2000, p.141). This arrangement gives students an opportunity to ask questions and share similar ideas and thoughts about the topic at hand. This enables them to reach a deeper understanding of the building systems we are studying then would be possible if I tried to answer all the questions on an individual basis. It also builds collaborative skills in my students since they are actively involved in sharing information with others.

## CONCLUDING REMARKS

One of the positive aspects of an Internet Inquiry is the "recursive, cyclical nature of the process" (Canter & Associates, 2002). This allows students an opportunity to research a topic of personal interest in a very thorough manner. When a project is a linear, step-by-step process, I have found that many students merely follow the steps blindly and do not think about how the steps relate to each other or to the context of the lesson. Students use higher order thinking processes when they are searching, analyzing, composing and sharing information during an Internet Inquiry. Not only are they learning course content, but they are building independent research skills and learning important skills as they gather, evaluate and synthesize information from the Internet. When students have a choice in the questions they are researching, they have more of a vested interest in the material and will be intrinsically motivated to succeed. Through the five phases of the project, students are building their reading, navigation, critical literacy and collaborative skills. In addition to all these benefits, an Internet Inquiry teaches problem identification skills and promotes independent study. These are skills my students will need throughout their lives. As with any instructional model, it is not applicable to all units of study, and the teacher must make sure it fits into their overall learning objectives and enhances student learning.

*(continued, bottom of page 6)*

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## **RESEARCH**

Silver, Harvey, Strong, Richard & Perini, Matthew, (2000). So Each May Learn – Integrating Learning Styles and Multiple Intelligences. Alexandria, Virginia: Association for Supervision and Curriculum Development.

Leu, Donald & Leu, Deborah, (2000). Teaching with the Internet: Lessons from the Classroom. Norwood, MA: Christopher-Gordon Publishers, Inc.

Canter and Associates, Inc. (2002). Integrating Technology in the Curriculum, Part I, Program Five. [video] Los Angeles, CA: Canter & Associates, Inc.

FNO Press. (1997, November-December). A Questioning Toolkit. Retrieved December 7, 2002, from <http://www.fno.org/nov97/toolkit.html>

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## **Journal of Applied Educational Technology**

### **Call for Articles**

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