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Course Management and Learning Software: My Lab Products

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My Lab products are available to adopters of Allyn & Bacon texts in several disciplines. This demonstration will include an overview of the Blackboard based course management software, how hands-on activities are integrated with an E-Text, how the standard package can be easily modified for each course and instructor with little or no technical knowledge. Included information will show how the product is used in a large (200+) lecture course. The demonstrator will supply data showing an increase in learning based on test grades before and after implementing the program. Data on student course satisfaction and evaluation of the product will also be available to attendees.

RATIONAL FOR IMPLEMENTATION OF MY PSYCH LAB IN A LARGE ENROLLMENT LECTURE COURSE

My Psych Lab (MPL) is a web-based learning environment available for Introductory (General) and Abnormal Psychology. The author has used MPL in a large (200-220 students) traditional lecture format General Psychology course since the Fall 2003 term. General Psychology has traditionally been a low performing course with failure rates averaging 15 – 20%. Research has shown that computer based activities can increase grade point averages when used in Study Skills courses (Tuckman, 2002). The use of web-based activities in hybrid (combining traditional lecture with web-based activities) courses has also shown significant improvement in understanding and knowledge of course material, as measured by post-test content assessments (Riffell & Sibley, 2005).

A study by Hassan M. Selim (2003) revealed that the effectiveness of course based web sites relies on four factors: (1) The interactivity of the web site where the student can control when and where they engage in the activities; (2) The ability to complete the coursework quickly, through animations and multi-media modules; (3) The ability to have course materials available anywhere at anytime, thereby increasing student-student and student-instructor interaction; (4) Increase the student's productivity and effectiveness. My Lab products provide an easily implemented avenue to address all four of these factors. It was the author's goal, when adopting MPL, that additional access to information and alternative means of interacting with the information would be reflected in better grades as measured by exam performance.

HOW MPL IS BEING USED IN A GENERAL PSYCHOLOGY COURSE

Students enrolled in the course are required to complete assignments describing an activity they completed on My Psych Lab. Each exam period requires one project to be submitted. The projects ask the student to describe the activity they completed in 75 – 100 words including a review of what was done and the basic information presented in the activity. In addition, the students write a 75 – 100 word integration of the material presented in the activity with information presented during course lectures and information presented in the textbook. The integration includes information related to

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the activity that was not the main focus of the activity. A third part of each project is to select and define three terms related to the topic on which the activity focused. (See Appendix A for a copy of the Project Form). Students are required to turn in their project three days before each exam. Only one project is accepted for each exam period. Most students reported completing more than the one required activity for each exam period with the goal of increasing their understanding of the material.

The projects are graded by the instructor and a graduate teaching assistant. Points are deducted for inadequate descriptions of the activity that signify the student did not understand the main points presented. Additional points are deducted for poor integration and bridging between the activity and the material presented in the classroom and textbook. The total project points available account for 60 of the 360 points available in the course.

EFFECTIVENESS OF MPL ON LEARNING

The effectiveness of MPL on overall course grades is shown in Table 1. More students are earning A's and B's than before introduction of the program. The first two terms of usage, Fall 2003 and Spring 2004, are presented separately due to problems with the initial implementation of the program involving the instructor and the program. Once the platform became stable in the Fall of 2004 and strategies for using MPL to its best advantage were developed (through student feedback) significant improvement in performance has been seen. There is additional work to be done to assist low performing students. It is hoped that the addition of an interactive learning game (Psi-Q) for the Spring 2006 semester will provide a better learning experience for these students.

Table 1. Grade distributions by percentages of students before and after introduction of MPL.

Term	N	Percent of students				
		A	B	C	D	F
Fall '01 – Spring '03	772	18	30	31	13	8
MPL implemented F 03						
Fall '03- Spring '04	376	16	33	24	16	11
Fall '04 – Fall '05	840	26	31	26	9	8

An additional analysis was completed (see Table 2) because it was felt that using the final course letter grades as the level of analysis might be inflated due to the inclusion of MPL points when calculating the letter grade. To more accurately tease out the effect of MPL on learning the second analysis was done comparing the raw exam grades (excluding the final exam scores) between students who used the program (Groups 2 & 3) and those who did not (Group 1). An additional possible confound is that students who would traditionally do well in the course, as demonstrated by exam performance, might over-inflate the effectiveness of MPL as a contributor to learning.

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Therefore, the data was analyzed with and without these high performing students (Group 3).

High performing students are defined as those eligible for exemption from the final exam. In the course a student who has taken all the regular course exams and earned an overall average above 90%, is exempt from taking the comprehensive final exam. For those students not achieving 90%, the lowest exam grade is dropped and the final exam replaces the low exam grade.

Table 2. Mean exam scores (excluding the final exam) for students who completed the required MPL projects and those who did not.

Term	Group 1	Group 2	Group 3
Fall 2005	56.22	75.21*	72.37*
Spring 2005	50.72	75.71*	73.77*
Fall 2004	50.00	76.29*	73.52*
Spring 2004	49.39	74.76*	73.08*
Fall 2003	58.95	76.73*	74.75*

* Difference significant at the $p < .01$ level between those who completed all assignments (Groups 2 & 3) and those who did not (Group 1).

Note: All of the exempt students completed the required MPL projects.

THE MY LAB INTERFACE AND TOOLS

The technology is easy to learn. You don't need to be technically inclined to effectively use My Lab products. There are numerous ways to customize a course if desired, but modifications are not necessary. The instructor merely needs to select those tools and components they want to use in the course by selecting from lists of Tools and Content.

Product support and course creation are very efficient. Little down time is experienced and scheduled maintenance is clearly announced on the opening pages of the site to forewarn users of the upcoming downtime. There is usually a period at the beginning of each term when the site is slowed by the number of students accessing the site for the first time and going through the registration process. It is best to request course creation well before the traditional start of a term. The author's experience is that creating a course a month before classes begin results in a course creation time of less than twenty four hours.

Although every instructor would like to think students would use available learning tools without requiring additional work, this is usually not the case. Therefore to encourage students to use the technology, required assignments should be developed. The number and content of these assignments should be determined according to the instructor's goals for the course. The author wanted students to be able to integrate the

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information presented in the activities and text with information presented in the classroom and their own life experience. This strategy helps students make the information their own by increasing the relevancy to their everyday life and experience.

Due to the large number of students in the course the required projects are kept fairly simple and short. It is felt that once the students begin to use the program they will become aware of its benefits and continue to use it on a regular basis. This strategy has been successful as noted by student comments gathered during the course evaluations. Over the last two years about a fourth of the students completing the evaluation have mentioned that they should have used the program more than they did, or should have used the program earlier in the term.

The time commitment needed to grade the projects and provide feedback is about 3 – 4 minutes for each project. In a class of 200 this is about 13 hours per project. Although this seems like a lot of time, the author has developed some strategies to reduce the time. The use of an undergraduate or graduate assistant to help with grading has been very beneficial. We also group the submitted projects by the activity completed. This strategy let's us grade all the submissions for a particular activity one after the other. This results in quicker grading and an increased chance to notice identical submissions from more than one student. Initially duplication was a concern, but this has not been a problem, only four identical submissions have been found since beginning to use the web site.

There is really very little to develop within the My Lab products, unless you want to do so. There was a learning curve for using the available tools to their best advantage. The first two terms in which My Psych Lab was used, by the author, there was only a slight change in course performance. This is most likely related to inconsistency in how it was used. Feedback from students, by way of evaluation responses, has resulted in changes in how MPL is being used and these changes are reflected in better class performance over the last three terms.

The author has found that students do appreciate additional ways to learn information. They have not been concerned about the extra work required in this course compared to other courses available. Early enrollment in the My Psych Lab section of the course have increased each term since MPL was introduced, even though it is the only section of the course that requires more than going to class and taking exams.

The use of My Psych Lab has increased the interaction between students and the instructor. The number of contacts continues to increase each term. These contacts involve not only questions about the mechanics of using the program but requests for additional information and assistance with understanding the course work. Student comments reflect that they felt the instructor was more approachable and willing to answer questions than before implementation of My Psych Lab.

At the end of each term a survey is administered to the students in the course. This survey consists of eight questions to be answered on a five point Likert scale and two essay questions through which students are asked to relate their experience using the MPL product. Table 3 reflects a sampling of the results from these surveys, in aggregate, over the last four terms of use.

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Table 3. Sample results from student satisfaction surveys. The percent of students responded agree or strongly agree are represented.

Survey Question	Percent
Using MPL helped me understand more of the material presented in this class.	90.6
The variety of activities available in MPL made the material more interesting.	82.3
Overall MPL was a beneficial addition to the class.	91.8
Sample student comments	
Requiring My Psych Lab was much better than requiring students to purchase merely a textbook, as it facilitates learning, not just memorization. Even though I'm generally a crammer by nature, it still helped a lot, and I imagine it helped a lot of other students even more. (Spring 2005)	
Each time I used My Psych Lab my grade improved. It was obvious what chapters I studied for using the program and which ones I did not. My Psych Lab was a very beneficial and key element to helping me to understand this class. (Fall 2005)	
Overall, I thought that My Psych Lab was very helpful. It was the main tool that I used to study for our exams. When I did not do well on a certain area, it clearly showed me the things that I needed to work on. All of the practice tests really helped me to narrow down what I needed to study for the test. I am very glad that we were able to use My Psych Lab as a tool in this class. (Fall 2005)	

COURSE TOOLS DESCRIPTION AND USE

Depending on the amount of time the instructor wants to devote to using the My Lab interface and the needs of the course, there are many tools that may be used.

- Discussion Board: The Discussion Board, an asynchronous question and answer area, was requested by students. However, after this tool was activated, its utilization has been very low.
- Chapter Exams: Allowing students to take the Chapter Exams multiple times has been a benefit. It is possible to give individual question feedback to students taking the chapter exams. These changes involve simply clicking a box to turn the feature on or off. It is also possible to edit the chapter exams written by the publisher to eliminate questions on topics not covered and adding questions that more closely reflect what the instructor feels is most important. If the instructor elects to use the chapter exams as part of the course grade they have the option of timed testing and one time administration.
- On-Line Gradebook: The On-line Gradebook allows students to see their in-class exam grades quickly, rather than waiting two or three class periods. For the instructor it is possible to post grades through an upload process or typing in the grades. The

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gradebook may be customized to the instructor's preference, adding and deleting items as desired.

- Adding Content: The process required to add content to the site is simple. Creating documents and posting them to the site is much like adding an email attachment. The author adds a review list for each chapter and the final exam. The course syllabus and additional documents may be added easily.
- Removing Content: Should an instructor elect to not cover a particular chapter in the text, they can easily remove the chapter from the content area by clicking a button.
- Digital Drop Box: The Digital Drop Box allows students to submit their written work easily and eliminates a lot of printing. Using the Drop Box also removes the fear that a virus on a student's computer may be transferred to the instructor's computer when opening an attachment. The Drop Box also facilitates the return of graded work with comments.
- E-Mail: The e-mail feature is useful for contacting students individually or in groups.
- Course Statistics: The *Course Statistics* feature allows the instructor to review the time students spend on the site and the place visited on the site. Statistics may be viewed for individual students and the class as a whole.
- Individual Study Plans: Instructors may also review the students *Individual Study Plans* developed from the performance on the pre-and post chapter tests.

Other tools available are: synchronous interaction with students, a course calendar, an address book, chalkboard, student web pages, electronic blackboard, class roster, assessment tools, and survey tools.

DISCUSSION

The addition of My Psych Lab to this course has resulted in better performance by students on exams and a greater understanding of the course material. Student report feeling better about the course and evaluate the course in a very positive way. For the faculty member adopting an online component for a class is a way of expressing to your students that you care about learning and want to provide them with tools that will assist them in performing their best in your course. Using My Psych Lab over the last three years has shown that students appreciate the effort.

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Appendix A Project Form

Project 2 General Psychology 1101 Spring 2006

Please read the directions for saving and sending your file at the end of this document. If you are reading this on the Web you have opened the file rather than saving it. Close the file, click ONCE on the Project 2 link. A dialog box will appear; select save file. Save the file on your storage device as Project 2. Open this file from within your Word Processing program. This Project is due by 5 PM on Wednesday 3/22/2006

Student Name:	
Student ID# (Last 4 digits):	

1.	Chapter number where activity found:						
2.	Indicate the type of activity you completed (Type an X to the right of the activity type)						
	Simulate		Watch		Explore		
3.	Name of the My Psych Lab Activity:						

4.	Write a 75 - 100 word description/summary of the activity you are submitting. Include in your description/summary what you did in the activity and a summary of the information presented in the activity.						
5.	Write a 75 – 100 word integration of information related to the activity you are submitting. <u>DO NOT</u> include information from the activity, but related information presented in the text or lecture.						

6.	List three psychology terms used in or associated with the activity you selected and define each term. The terms you select MUST be from the text.						
	Term:						
	Definition						
	Term:						
	Definition						
	Term:						
	Definition						

K-12 Teachers' Instructional Use of Technology

Colleen Walker, Fayetteville State University

Priscilla Leggett, Fayetteville State University

The session presented initial results of a study of K-12 teachers' instructional use of technology and the academic impact of their use of technology. The web site Zommerang.com was used to create the survey used for the study. Information about that web site and its use in creating and analyzing the data was presented, along with copies of the actual survey.

PURPOSE

The purpose of the study was to investigate K-12 teachers' use of technology as an instructional tool. More specifically, the investigators sought to determine the availability of a variety of technologies in the classroom for teachers and their students, their perceived skill level at using these technologies, how frequently they use these technologies, and for what purposes. The list of technologies included desktop and laptop computers, LCD projector and screen, internet access, smart board, printer, scanner, overhead projector, TV/VCR, CDDVD player, document camera, PDA, telephone, digital camera, camcorder, web camera, instructional software. The survey also asked teachers to report how they learned to use technology, what technology they value most, and what technology they would most like to have that is currently not available to them.

METHOD

DESCRIPTION OF SURVEY INSTRUMENT

The researchers wanted to create an electronic survey for ease of distribution. The survey was developed using the service provided by Zoomerang.com because the university has a site license with the company. A 39-item survey was developed by the researchers and posted at Zoomerang.com. The development of categories and items for the survey was influenced by the work of Russell et. al., 2003.

Part one of the survey obtained demographic information from participants. This included gender, race, teaching licensure, current teaching position, years of teaching experience, and years taught at current school. Part two of the survey included thirty-two questions regarding the availability of technology in teachers' classrooms ranging from desktop computers and printers to palm held devices, smart boards, and document cameras. Part three asked respondents, using a Likert scale (1 = not skilled, 2 = low skill, 3 = somewhat skilled, 4 = very skilled, and 5 = proficient), to rate their skill level on various technologies. Part four asked respondents to indicate what percentage of their technology learning occurred through: 1) college classes, 2) workshops, 3) self-taught methods, 4) colleague or family member, and 5) a student in their class. The fifth part of the survey asked respondents, using a Likert scale (1 = never, 2 = once or twice per year, 3 = several times a year, 4 = several times per month, and 5 = several times per week), to rate the frequency of technology use in the classroom.

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In part six, again using a Likert scale (1 = never, 2 = once or twice a year, 3 = several times a year, 4 = several times a month, 5 = several times a week), respondents were asked to rate their use of technology according to the following 8 categories: 1) instructional preparation – e.g. lesson plans, web resources, 2) instructional delivery – use of technology while teaching a lesson, e.g. Power Point, 3) teacher correspondence – e.g. e-mail, newsletters, 4) record keeping/grading – e.g. grade book, attendance, report cards, 5) student use – e.g. WebQuest, research, writing, software programs, center activities, key-pals, 6) accommodations/interventions/remediation – e.g. assistive technology for at-risk, ESL, or special education students, 7) assessment – diagnosis, test preparation, monitoring learning, and 8) professional development – e.g. online courses or workshops. The final section consisted of two open-ended items asking participants to list the top three technology items they valued the most, and to list the top three technology items they would like to have available in their classroom.

FIELD TESTING THE SURVEY INSTRUMENT

Through the use of a convenience sample, the researchers field-tested the survey instrument with graduate students enrolled in their classes to determine if the instrument needed modification. Minor changes such as wording of questions and instructions for clarity were made before the survey was distributed to teachers in the school district.

DISTRIBUTION OF THE SURVEY INSTRUMENT

A link to the survey on Zoomerang.com was sent to a contact person in school district who distributed the survey via e-mail distribution list to all K-12 teachers in the local school district (N=3,273). Respondents were informed that completing the survey was voluntary and anonymous. They were also informed of how the survey information would be used. The survey was made available for a limited amount of time.

RESULTS

DEMOGRAPHIC INFORMATION

A total of 337 surveys were returned (n=337) for a response rate of 9.7%. Demographic information revealed that 91% of the respondents were female, 9% male, 62% Caucasian, 30% African American, and 7% other. In terms of licensure area, 47% were elementary teachers, 12% middle school teachers, 19% high school teachers, and 13% special educators, 3% reading and 7% art/music/physical education. With respect to years of experience 34% of the respondents had 1-5 years teaching experience, 23% had 6-10 years experience, 13% had 11-15 years experience, and 31% had over 15 years of experience.

AVAILABILITY OF TECHNOLOGY

From the results of part two of the survey, it appears that the technologies most available in classrooms are: desktop computers for use by teachers and students, projection screen, printer, overhead projector, TV/VCR, telephone, and instructional

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software. It appears that the least available technologies in the classroom are: LCD projector, laptop computer, wireless access, smart board, scanner, document camera, PDA, digital camera, and web camera.

PERCEIVED SKILL LEVEL AT USING TECHNOLOGY

Part three of the survey asked teachers to rate their proficiency at using the various technologies. Respondents indicated that they were proficient (rating of 5) at using the following technologies: desk top computer (50%), Internet (53%), printer (55%), overhead projector (71%), TV/VCR (77%), and CD/DVD (70%). Respondents reported being not skilled (rating of 1) at using the following technologies: PDA (35%), web camera (31%), document camera (28%), and LCD projector (16%). (See Table 1).

Table 1. Perceived Skill Level by % for Each Type of Technology

Type of Technology	5 Proficient	4 Very Skilled	3 Somewhat	2 Low Skills	1 Not Skilled
Desktop computer	50	26	21	2	0
LCD projector	23	14	30	17	16
Laptop computer	41	26	22	7	4
Internet	53	29	16	2	0
Wireless technology	24	25	27	14	9
Printer	55	31	13	2	0
Scanner	31	25	25	11	8
Overhead projector	71	23	6	1	0
TV/VCR	77	19	4	0	0
CD/DVD	70	21	7	1	0
Document camera	12	13	27	20	28
PDA	9	10	23	23	35
Digital camera	36	30	19	10	5
Camcorder	33	31	20	10	6
Web camera	11	14	24	20	31
Instructional software	34	37	21	5	3

HOW TEACHERS LEARNED TO USE TECHNOLOGY

To the question of how they learned to use technology, the greatest percentage of learning occurred through self-taught methods and workshops, and the least

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percentage of learning was attributed to college classes, colleagues/family members, and students in their classes.

FREQUENCY OF TECHNOLOGY USE IN THE CLASSROOM

Respondents indicated that they used the following technologies several times a week (rating of 5) a desktop computer (88%), Internet (88%), printer (86%), and overhead projector (53%). The technologies respondents reported that they never use (rating of 1) are PDA (83%), web camera (86%), Smart board (86%), document camera (74%), scanner (61%), wireless technology (69%), laptop computer (59%), and LCD projector (45%) (See Table 2).

Table 2. Frequency by % of Technology Use in the Classroom.

Type of Technology	5 Several Times a Week	4 Several Times a Month	3 Several Times a Year	2 Once or Twice a Year	1 Never
Desktop computer	88	4	2	1	5
LCD projector	10	14	14	17	45
Laptop computer	13	10	9	9	59
Internet	77	12	7	2	2
Wireless technology	11	6	5	9	69
Printer	86	8	2	0	3
Scanner	5	8	15	12	61
Overhead projector	53	19	13	5	11
TV/VCR	38	28	20	7	6
CD/DVD	36	17	16	9	22
Document camera	2	4	9	10	74
PD	1	4	6	6	83
Digital camera	8	19	23	15	36
Camcorder	3	7	19	26	46
Web camera	1	1	5	7	86
Instructional software	36	27	16	9	13
Smart board	3	2	4	6	86

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USES OF TECHNOLOGY IN THE CLASSROOM

When asked to rate their use of technology for different purposes, respondents indicated that they use the following technologies several times a week (a rating of 5), for the following given purposes: instructional preparation (61%), teacher correspondence (80%), and record keeping (80%). They reported that they never use the following technologies (a rating of 1), for the following given purposes: accommodation/ intervention/remediation (23%), instructional delivery (19%), and professional development (20%) (See Table 3).

Table 3. Frequency by % of Technology Use Based on Categories

Technology Use	5 Several Times a Week	4 Several Times a Month	3 Several Times a Year	2 Once or Twice a Year	1 Never
Instructional preparation	61	23	11	2	3
Instructional delivery	20	23	20	18	19
Teacher correspondence	80	12	6	1	1
Record keeping/ grading	80	9	4	2	5
Student use	36	28	16	8	11
Accommodations/ intervention/remediation	28	19	18	12	23
Assessment	36	30	17	7	9
Professional development	25	14	26	15	20

TECHNOLOGY TEACHERS VALUE

The last part of the survey asked teachers to list the top three technologies they valued most and the top three they would most like to have. To the extent that we have analyzed this data, the researchers found that in response to the top three technologies they valued the majority of the respondents listed computers – desktop and laptop, Internet access, and printers. In response to the top three technologies they would most like to have the majority of the respondents listed LCD projector, laptop computer, and Smart board. Further analysis of these data is needed, however,

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to reveal the reasons teachers give for valuing the technologies they value and for wanting the ones they say they want.

DISCUSSION

Initial results of the study reveal some interesting trends about teachers' use of technologies that have implications for school district administrators and teacher educators. The first trend relates to availability and use of technology. It appears that most teachers have basic technologies such as desktop computer, projection screen, printer, overhead projector etc. available in their classrooms. These basic technologies are the ones teachers reported being most proficient at using and they are also the technologies teachers reported using most frequently. In addition, the technologies teachers reported having no skill at using are newer technologies such as PDA, web camera, document camera, LDC projector etc. These are the technologies reported as being least available in their classrooms. The newer technologies were also reported as the ones teachers never use, and the ones they would most like to have. These findings suggest a need to make newer technologies available to teachers.

The second trend relates to how teachers learned to use technology. It is interesting to note that the greatest percentage of how teachers learned to use technology occurred through self teaching and workshops more than through college classes, colleagues/family members or their students. This finding suggests that since teachers learned to use the basic technologies mostly on their own and through workshops, if newer technologies were made available to them and some training provided, teachers might become more proficient at using these newer technologies. They might also use them more frequently. Furthermore, the finding that a lower percentage was assigned to college classes for developing teachers' technology skills raises questions about the technology instruction being provided in these classes. Perhaps if preservice teachers learned how to use newer technologies in their college classes they would be more proficient at using these technologies and more likely to use them when they start teaching. It would be interesting to learn if newer teachers (more recent college graduates) reported learning more from college classes than did more experienced teachers. A more in depth analysis of the data will be conducted in order to answer this question.

The third trend relates to findings on the frequency with which teachers use technology in their classrooms for particular purposes. Results reveal that teachers use technology more frequently for instructional preparation, correspondence, and record keeping and less for instructional delivery and professional development. Although adequate technology is available in classrooms, it appears that teachers are not using the technologies they have to their greatest potential. Perhaps because they are mostly self-taught, teachers seem to lack proficiency at using technology for instructional purposes. They are not using technology to its fullest potential to engage students in the learning process or to extend their own learning.

While the results of this study suggest that with access to technology and some training teachers can gain adequate levels of proficiency with using technology, the results also suggest that this approach is not effective. If the desired outcome is for

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technology to be used as an instructional tool that is integrated into all aspects of instruction, then schools administrators and teacher educators must do a better job of providing in depth training on effective, creative uses of technology in the classroom. Without such training teachers are likely to continue to use technology in limited ways with which they feel most comfortable and the potential educational benefits of technology will remain unrealized.

IMPLICATIONS AND RECOMMENDATIONS

School administrators and teacher educators should:

- make recent technologies more available to teachers.
- provide training to develop teachers' skill at using these newer technologies.
- provide in depth training on how to use technology in all aspects of instruction.

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The Use of Digital Inking to Enhance Instruction

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Tablet PCs are providing collaboration opportunities for university faculty members as they explore possibilities for the use of this technology to deliver instruction in multiple formats. This paper by professors at East Carolina University (ECU) highlights the use of Tablet PCs in face-to-face and online learning environments that include: graduate and undergraduate teacher education classes, K-12 public school classrooms, and undergraduate internship supervision settings. Ideas presented highlight how the tablet feature increases options and versatility for individuals with no loss of regular laptop functions. While the original use of the tablet for these professors centered on using digital inking to efficiently provide specific and personal handwritten electronic feedback to students in online classes, its versatility has also enhanced many other aspects of their work.

THE TECHNOLOGY

Tablet PCs are emerging as a tool that can be used by both instructors and students. While using technology (e.g. laptop computers) for delivering content and grading papers is not a new strategy, the unique features of the tablet PC allow instructors to approach both in a different way. The screen of the tablet PC can be swiveled 180 degrees (making it easier to share work with a colleague or student) or laid flat by swiveling 180 degrees and closing the laptop with screen still viewable (making it easier to mark with the digital pen) (See Figure 1). The instructor can use a pen-shaped stylus to mark comments directly in the text of a document with *digital ink*, somewhat like a digital signature for credit card purchases. At the same time, tablet PC computers retain the capabilities of a traditional laptop computer, aiding in content delivery through traditional software programs like Power Point, Excel, and Word. This versatility has influenced experimentation and action research with these tools by the authors in a variety of educational settings.



Figure 1. Swiveled screen and stylus

USING THE TABLET PC IN THE TEACHER EDUCATION ENVIRONMENT

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The tablet PC provides teacher educators a variety of formats for instructional delivery in both online and face-to-face class settings. While the presenters began using the tablets exclusively for online instruction, they found that the tablet function also offered options to help enhance face-to-face instruction and internship supervision.

ONLINE CLASSES

After seeing vendors at a conference use tablet PCs to hand write orders with digital ink, one of the presenters approached the department chair about purchasing a tablet PC to use for improving feedback in online classes. This instructor felt that providing feedback in online classes was often time consuming and imprecise, and that a tablet PC would allow her to write on her student's digital documents just as she would write comments on papers in a traditional face-to-face class. The chair agreed to support a pilot study using this form of technology to see if the students preferred digital handwritten feedback and/or perceived it as a more personal form of interaction. Findings from this pilot study indicate that the students did feel that this was a more personal form of feedback. Examples of student comments include:

- "How awesome! I truly enjoyed that! Feedback is much more personal and less writing for you as well...I think!! This is the first time I have ever need this, and I absolutely love it!!"
- "I found the handwritten feedback most valuable. It provided a personal touch that typed comments cannot convey."

After several semesters, instructors at ECU have found using the digital inking feature of tablet PCs to provide feedback effective in creating a sense of personal interaction with their online students. Instructors are able to give specific feedback to students by handwriting comments directly on student work using the digital inking feature and saving it in a digital file. Figure 2 shows an example of a student document submitted in an online class with digital inking feedback by the instructor. The instructor opens an assignment file submitted by a student and then uses the inking feature of the tablet to "write" with digital ink on the screen. This document with digital inking can then be saved and returned to the student as an email attachment.

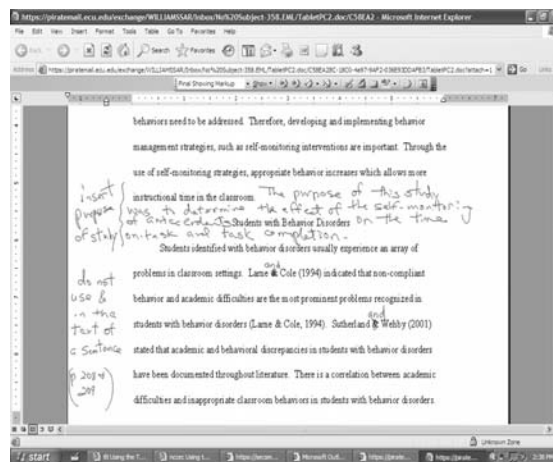


Figure 2. Online assignment with digital inked comments

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Handwritten digital feedback closely approximates the type of handwritten feedback students receive in traditional face-to-face classes. This tool benefits faculty members by allowing them to provide detailed and personal feedback with a human touch that is not only specific, but also that can be returned more quickly than with the use of typed summaries, individual typed emails, phone calls, or other feedback devices previously used.

FACE-TO-FACE CLASSES

After finding them useful tools during online instruction, these faculty members began using the laptop features of the tablet PC in their face-to-face classes. However, they soon found that many of the benefits of the tablet option enhance their face-to-face instruction. One way the tablet option helps in face-to-face classes is in giving feedback to students who turn their work in late electronically. The digital inking feature means these students are often able to receive important feedback on lesson plans before implementing them in their practicum settings. It is even more beneficial for students who live at a distance from school so they can receive feedback on their plans without having to make a special trip to the university to pick up a hard copy of their lesson plan and feedback.

An unanticipated benefit of the tablet PC is its presentation capabilities that combine the benefits of an overhead projector and a laptop. Current tablet PCs permit digital inking on most Microsoft Office© programs, which allows an instructor to project and "write on" Word files, PowerPoint presentations, and/or Excel spreadsheets. One instructor, who does not like to use Power Point presentations in her class, opts for more interactive lessons using meaningful documents. She uses a lesson plan in Word throughout the semester, adding information to it as the semester progresses. In the past, students had a hard time distinguishing the original text from the newly added text. By having handwritten comments on the lesson plan, the students are able to quickly and easily pick up on important information and notes from each class session. (See Figure 3.) Furthermore, the notes made during class, in addition to the original "clean copy", can be saved on the computer as digital files and emailed to students who require help with taking notes, students who miss class, or to all students as a reminder of important content covered in class that day. Additionally, these digital files can be more easily updated before each use and more efficiently stored than overhead transparencies.

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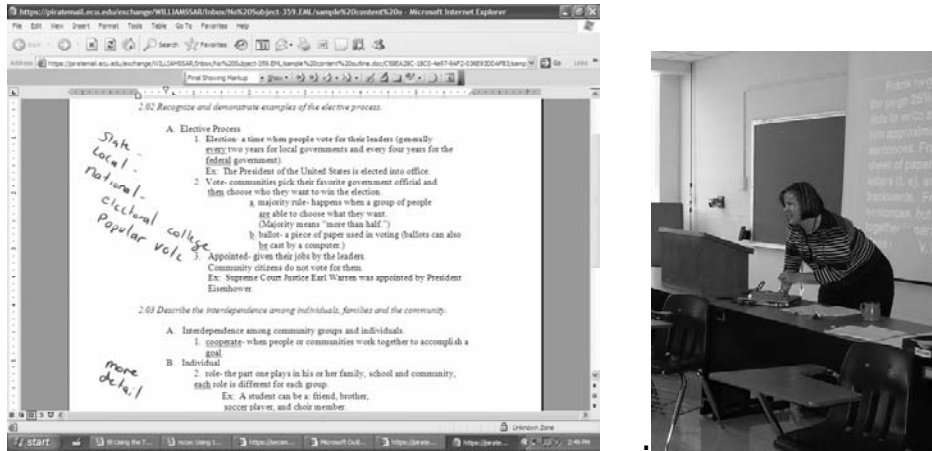


Figure 3 Face-to-face class assignment with digital inking comments.

INTERNSHIP SUPERVISION

The versatility of the tablet PC is also evident in the ways supervisors with different supervisory styles can take advantage of different combinations of tablet features. For example, although many schools utilize a standard format for documenting intern progress and providing feedback, supervisors may interact with the document in different ways. A supervisor who prefers to give the intern word processed feedback can do so by saving a digital copy of the progress report and typing information in the appropriate cells on the form. This helps to avoid documentation with illegible handwriting or spelling errors. Furthermore, the text can be extended or modified as the lesson progresses. An added advantage to completing the progress report in this way would be the ability to enlarge font easily for individuals with visual disabilities or change the font to provide emphasis. On the other hand, some supervisors prefer the handwritten touch on the progress reports. Moreover, laying the tablet flat and writing inconspicuously may be more appealing than noisily typing during an observation. If so, a supervisor can use digital inking to script notes on the progress report and simultaneously sketch diagrams representing the classroom and teacher/student movement and interaction.

Supervisors and clinical teachers can share feedback developed digitally with interns using inexpensive and small portable printers that are now readily available. These printers permit the supervisor to take advantage of the tablet technology without having to compromise the immediacy of feedback. Supervisors, regardless of the features used, can print materials to share with the intern and clinical teacher before leaving the clinical setting. Many printers are small enough to fit directly into a bag or briefcase with the tablet PC.

The laptop capability to have multiple files open at one time allows supervisors to simultaneously develop a progress report and take additional and supplementary notes to be given to the student or shared in a post-observation conference. This can be done by simply switching from file to file rather than shuffling paperwork in the back of the room. Due to the variety of tools incorporated in the tablet PC, different university supervisors can use the same equipment and tailor the features to fit with a personal supervisory style.

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USING THE TABLET PC IN K-12 EDUCATIONAL ENVIRONMENTS

A natural tendency for teacher educators is to think of how newly learned tools might extend to or impact students in the K-12 settings. Many of the advantages described earlier of using the tablet PCs in university settings are also applicable in the public school K-12 setting. An obvious crossover is the use of a tablet PC for the presentation of information, as would traditionally be done using an overhead projector or chalkboard. However, the benefits may be a bit different from those in the university classrooms. As with an overhead projector, teachers can add content to a display for students while still facing the class. Information can be added and erased easily, with the bonus advantage of the elimination of markers, ink, water, cloths, etc. from the process. Original versions of slides or word processed documents can be saved *as well as* those that have been modified during the class discussion. See Figure 4 for an example of a teacher highlighting projected text during a class discussion. A further advantage is the ability to incorporate symbols that are not offered in traditional word processor programs with text in a way that does not add several different steps to the process of developing a page for display or a handout. Naturally, teachers can also use the laptop capabilities of tablets for lesson planning, student grade management, communication, data management, and class webpages.

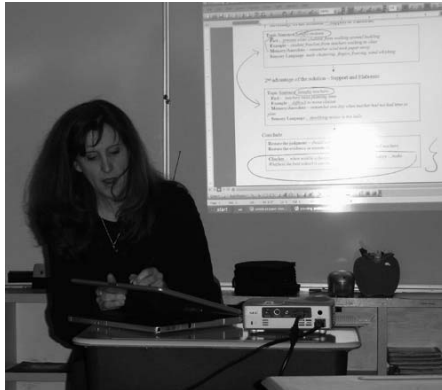


Figure 4 Use of the tablet to share content in a K-12 setting

Tablet PCs are not only a tool for teachers. Students may also take advantage of the versatility of this new technology and expand the ways in which they can interact with content. Given the potential advantages offered by assistive technology for students with disabilities, it is important for students to have access to these tools in applied and meaningful ways during their time in the public schools (see Figure 6). For example, students can use a tablet PC while writing a paper or essay. The laptop features eliminate the need for the student to needlessly copy and re-copy work, but instead make changes to the document with the cut and paste tools. However, the tablet features allow students to map ideas and make revision marks in a way with which they are already familiar. The swivel screen feature makes it easier for students to share their work with peers, and prompts or cues can be posted via (audio, text, or inked) the sticky note feature of the tablet PC. Furthermore, each version of the paper can be

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saved individually so as not to lose evidence of the student's thought process as changes to the paper are made. Illustrations, handwriting, photographs, and text can all be integrated into the same document (see Figure 5 for an example).

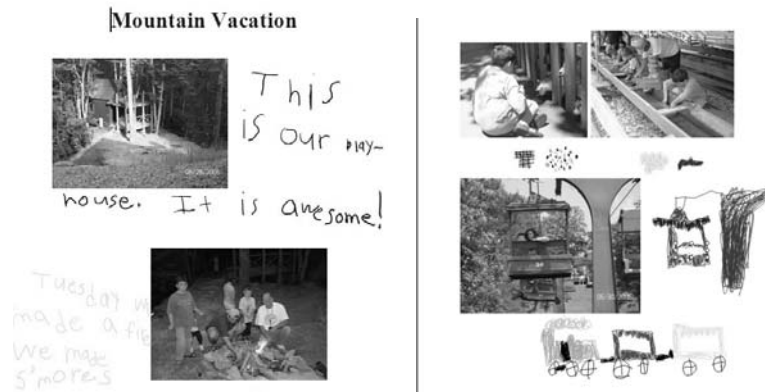


Figure 5. Student work sample integrating text, handwriting, photographs, and illustrations

However, the benefits of tablet PCs are not limited to writing tasks. The digital inking can also be used in conjunction with word processors for math applications or other academic work. File storage may be an additional advantage. Backup files allow both students and teachers immediate access to student work without having to look through book bags, cubbies, desks and other places.

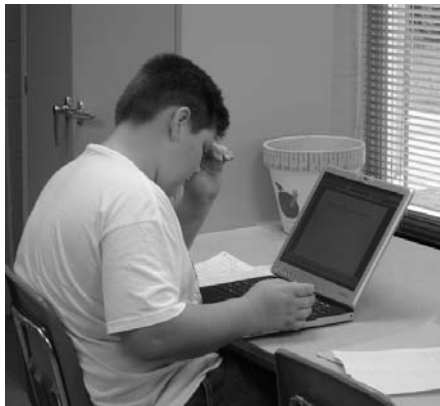


Figure 6. Student working in K-12 classroom with a tablet PC

OPPORTUNITIES AND CHALLENGES FOR THE FUTURE

As computer use becomes more and more common in classrooms, both as a teacher and student tool, tablet PCs offer the unique opportunity to bring in the option of handwriting to computing situations. Handwriting and word processing can be incorporated in a meaningful way, for the provision of feedback, instructional presentation, or student use. As they become more common, tablet PCs may offer the opportunity to capitalize on different teaching and learning styles, and be a useful part of the instructional environment.

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This new era of learning brings about new challenges and opportunities. From online instruction to the increasing availability of technology tools in face-to-face classrooms, it continues to be important to evaluate the effectiveness of emerging instructional tools. As we add tablet PCs as well as computers to our instructional toolkits, more research needs to be done evaluating their effectiveness in increasing student-teacher interactions and improving student outcomes. In the mean time, we will continue to take advantage of the tablet PCs potential to keep the "human touch" while incorporating new technologies.

The Future Has Sent You a Message: Do You Want To Accept? Comparing the Use of Instant Messenger with Chat Software

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Libraries have been using chat reference software programs such as LSSI and QuestionPoint for the last several years with moderate success. Instant Messenger, while limited in its capability, is a tool that students are familiar with and use frequently to chat with their peers. The University of North Carolina at Wilmington uses both a free instant message program (Trillian) as well as a statewide chat service called NCKnows (which utilizes the QuestionPoint software). While Trillian is staffed entirely by Randall Library librarians, NCKnows is staffed by librarians throughout the state. After one year, we are evaluating both of these tools in order to serve our users more effectively. This paper will introduce both Trillian and NCKnows to potential users and describe Randall Library's future plans for the use of these products. It will include pros/cons of each product and virtual reference/chat tips, techniques, and etiquette.

BRIEF HISTORY OF INSTANT MESSAGING AND CHAT SOFTWARE

The foundations of instant messaging and chat software are rooted in the 1970s beginning with the first electronic bulletin board. In 1978, Ward Christensen and Randy Seuss developed the Computerized Bulletin Board System (CBBS) enabling people to post messages to an electronic "board," to which others could reply. These series of exchanges of information between different users became known as "threads." From BBS arose Bitnet Relay Chat, which was developed at the City University of New York and evolved into a cooperative effort among several U.S. universities for communicating and sharing information. (Moschovitis, Poole, Schulyler, and Smith, 1999). Inspired by CBBS and Bitnet Relay Chat, a Finnish programmer named Jarkko Oikarinen created the protocol Internet Relay Chat (IRC) in 1988 to make BBS more 'usable.' (Oikarinen, n.d.). IRC was developed so that many users located in remote locations could chat amongst themselves in real-time, which had profound effects. Thousands of people used IRC to communicate using IRC during the Gulf War in 1991 and Russian students used the technology in 1993 to provide real-time updates on developments during the attempted coup in Russia (Chat Rooms: Lively Conversation, 1996), and by 1997, IRC was being used in over sixty countries worldwide. (Baldwin Hick, 1997).

Libraries began adopting chat software in the mid-1990s. In the spring 1995, the Internet Public Library was formed at the University of Michigan's School of Information and Library Studies, which released the Multi-User Object Oriented (MOO) chat reference environment that fall. Bernie Sloan, a longtime proponent of digital reference services, recalls that he surveyed the Web and found that several schools had been offering chat reference since 1997. (Sloan, 2001). In July 2000, Santa Monica Public Library became the first public library to employ chat reference. Earlier that year, North Carolina State Libraries began experimenting with chat reference as well, but discovered that the service "failed miserably" as patrons found it too difficult to chat

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online given the technology. By this time, however, proprietary chat software was becoming more available. After investigating several products, NCSU Libraries selected LSSI's Virtual Reference Desk, and found that within several months the service was just as "popular" as its email reference service. (Boyer, 2001). By 2002, it was evident that chat services were increasingly being used in academic libraries. The Association of Research Libraries (ARL) surveyed 124 ARL member libraries and found that among the sixty-six respondents, 83% were using a hosted service; two of the most popular were 24/7 Reference and LSSI's Virtual Reference Toolkit. (Ronan and Turner, 2002). The number of libraries using chat reference for communicating with patrons has continued to grow and has become more prevalent in UNC-system libraries as well. By early 2006, nine of the sixteen campuses were employing the NC knows service, or hosted service (e.g. LSSI, Velaro).

About the same time that chat services found homes in the library community, instant messaging was beginning to be realized as well. In 1996, Mirablis, an Israeli firm, developed ICQ ("I SeekYou"), which resulted in 12 million downloads. Recognizing the fruitfulness of the technology, AOL purchased Mirablis in 1997 for \$400 million, redeveloped ICQ, and released it as AOL Instant Messenger. (Manafy, 2004). Wanting a piece of the action, Yahoo! and Microsoft both followed in 1999 with their own versions of instant messaging (IM) technology. Only two years later, the Pew Internet & American Life Project published its findings that indicated 41% of online teens were using IM to talk with teachers and classmates or using "ask-an-expert" websites for assistance. (Lenhard, Simon, & Graziano, 2001). Studies suggest that the number of people using IM is continuing to rise. According to one report, 2.5 billion text messages are sent each month, which is triple the amount sent three years ago. Most of these messages are being sent by teens – 65% reporting that they use it and 32% stating that they use it daily. ("To Text or Not To Text," 2005). Other reports indicate that 90% of teens are using IM and that 80% of 22-34 year olds are also using IM regularly. The business community appears to be increasingly accepting of IM as a communication tool as well. More than 28 million business users use IM and are reported to average nearly 1 billion messages sent daily at work. IM has become so profound for some that they now have their IM alias printed on their business cards while others write it on business cards that they exchange with clients. (*Business Wire*, 1995). As user-centered organizations, libraries have begun implementing IM technologies as well. In a recent survey of UNC-system schools the authors found 38% percent of libraries are using one or more free IM services. Certainly, as users become more Internet-centered and increasingly utilize these tools to communicate, libraries will do so as well.

USING INSTANT MESSENGER IN THE LIBRARY

Librarians at Randall Library use Chat in several different ways. We have Instant Messenger (IM) software loaded on our two reference desk terminals with the buddy names: RandallDesk and RandallDesk2. This chat reference service is available while the reference desk is open only. We are able to chat with students on several different IM programs and answer questions that normally would have been telephone or email transactions. If a chat transaction seems to be running a little long then we usually

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request that the patron come into the library or make an appointment with a librarian for more in depth assistance. The Public Services Librarians also have IM software loaded on their office computers. This is used to follow up with students who had questions during an instruction session and it is also a way that students with questions can contact a librarian in their office. Randall Library publicizes access to our IM accounts on our "Ask a Librarian" webpage and on each Public Services Librarian's personal webpage. Randall Library began testing the use of IM software by only using in between librarians through our Mobile Reference program. This gave non IM users the chance to get comfortable with using the software and to learn chat etiquette. Once we were ready to launch chat reference we began publicizing our IM buddy names in August of 2004 and participated in 391 sessions by the end of June of 2005. Our number show so far this year that we have participated in 129 chat sessions from July 2005 thru December 2005. We will continue to monitor chat usage to determine if we should add a third buddy name for reference in order to help with traffic flow of patrons both in person and virtually.

Randall Library is currently using an IM aggregator called "Trillian 3 basic". The version we use from Cerulean Studios (www.ceruleanstudios.com/) is free but they also have an advanced version "Trillian Pro 3" for purchase. The Trillian 3 basic aggregator supports several different IM software including AOL, Yahoo, MSN, ICQ and IRC. According to PC Magazine Trillian 3.1 handles one or more accounts for each of the four big IM services plus IRC and it also offers built-in linking to word definitions in Wikipedia (<http://wikipedia.org/>). This is a very simple program to use and offers chat access to a wide variety of IM access. Another free IM aggregator is called GAIM (<http://gaim.sourceforge.net/about.php>). According to PC Magazine Gaim 1.5.0 handles nine IM systems and multiple accounts on each service. These include AIM and ICQ (Oscar protocol), MSN Messenger, Yahoo!, IRC, Jabber, Gadu-Gadu, SILC, Novell GroupWise Messenger, Lotus Sametime, and Zephyr networks. Not everyone wants to download software to their personal computer so there are several ways to access chat programs without downloading them to your computer. This way your patrons can still chat with a librarian without adding software to their computer. These are a few websites that offer access to chat software: <http://www.e-messenger.net/>; http://www.aim.com/get_aim/express/aim_expr.adp and <http://www6.meebo.com/>

There are a few tips to remember when you offer IM to your patrons.

- Just because the person you are chatting with isn't answering doesn't mean they're ignoring you
 - If the person's PC speaker is turned down, they probably won't notice your IM
 - Don't send lengthy messages, a multi-tasker does not like to wait
 - If a patron walks up to the desk while you are IMing let them know you will be with them as soon as you wrap up the chat session
 - If a chat session pops up while you are helping someone at the desk, let them know you have received their message and will be with them as soon as you wrap up your transaction

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- Treat IM as you would a phone call. If it becomes an extended transaction, invite them to come into the library for one on one assistance

Adding the chat reference has so far been a great success and by using software that many of your patrons are already using makes the chat transaction even more comfortable for both the user and the librarian.

USING NCKnows IN THE LIBRARY

NCKnows is a statewide virtual reference chat service populated by academic, public, and special libraries throughout North Carolina. Any library can participate in NCKnows; a library need not staff the service in order to offer it to their patrons. NCKnows is funded by LSTA money and administered by the State Library. When the grant funding expires, it is expected that the state legislature will support the service; failing that, the participating libraries will have to contribute or "buy-in" to maintain NCKnows. Service hours for NCKnows are comprehensive: Mondays, 9 to 8 PM; Tuesdays, 9 to 10 PM; Wednesdays, 9 to 8 PM; Thursdays, 9 to 8 PM; Fridays, 10 to 7 PM; Saturdays, 1 to 5 PM; and Sundays, 1 to 5 PM. When NCKnows is not operating, 24/7 (and now, with the recent merger between the two companies, OCLC QuestionPoint) librarians monitor the system.

Libraries within the University of North Carolina system that both offer and staff the service are as follows: Appalachian State University, North Carolina Agricultural and Technical State University, University of North Carolina Chapel Hill, University of North Carolina Greensboro, and University of North Carolina Wilmington. UNCW Randall Library has been a participant in NCKnows since the pilot project. Six Randall librarians currently serve as NCKnows librarians for a total of five hours a week of service, not including weekend and substitute shifts. Service hours for Randall are: Mondays, 12 to 2 PM; Wednesdays, 10 to 11 AM; and Wednesdays, 6 to 8 PM.

A definite strength of the system is its statistical reporting features, which allow any participating library to assess the effectiveness of the service to both NCKnows patrons and its own patrons. The Randall data suggest that we service more NCKnows patrons than our own patrons are serviced; in other words, our own library patrons are not using the service as extensively as patrons from other participating libraries. For the time period between July 1, 2005 and March 13, 2006, Randall serviced 265 NCKnows patrons, constituting 78 hours, 48 minutes, and 28 seconds of service time (this represents an increase of 65 patrons from a similar period last year, July 1, 2004 to March 15, 2005). Only four of these 265 patrons were logging in from the NCKnows link off the Randall Library website; so, for all intents and purposes, these four were Randall patrons, although anyone can access the link on our website. But there were an additional 161 Randall patrons serviced by NCKnows librarians other than Randall (a number up from 117 during a similar period last year). Significantly, of these 165 total Randall patrons, 127 of the resulting chats were coded by the service librarian as "COMP," or completed, answered.

Upon the completion of each reference interaction, the patron has the option to complete a user satisfaction survey created by the NCKnows service. Of those 165 total Randall patrons who used NCKnows, 24 or 14.5% opted to take the survey. A selection

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of the data indicates the following: 17 Randall patrons responded "yes," they were satisfied with the service; 18 responded that the service was "very easy" to use; 17 responded that the quality of staff was "excellent"; and 19 responded that they were "very likely" to use the service again. The respondents were also asked to identify themselves: 17 self-identified as "college students" (presumably UNCW students, although not necessarily); 2 as "K-12 students"; 2 as "state residents"; and 2 did not select a category. Interestingly enough, of the 17 Randall patrons who indicated that they were satisfied, 12 were college students.

Survey respondents are also given an opportunity to offer qualitative feedback. Nine or 37.5% of the 24 Randall Library respondents provided the following comments (unless specified, the following are from self-identified "college students"):

- "Great service. Thanks a bunch!"
 - "I was amazed at how fast I received that answers I needed!"
 - "Thanks for the help!"
 - "they [sic] service was great! Thanks" (K-12 respondent)
 - "i need help!!!!!!!!!!!!!!!!!!!!!! and they didn't [sic] give me what i needed" (K-12 respondent)
 - "Librarian sb was very thorough and very helpful in answering my question." (state resident respondent)
 - "This is great! I'll recomend [sic] it to all of my classmates and friends!"
 - "great job!! the online assistant really helped me out! Thanks"
 - "i go to UNCW and librarian online was GREAT. He/she really knew his/her stuff."
- It is interesting to note that the only negative observation was from a K-12 patron.

The NCKnows program has some obvious strengths, chiefly in the areas of coverage and convenience. It provides 24/7 reference service with trained reference professionals. This can be significant for a library whose reference desk closes nightly at 10 PM, as is the case at Randall, or earlier. It is certainly a convenient service as well, enabling patrons to access it from home or office at any hour of the day. This can be especially meaningful for patrons with mobility issues; indeed, it is no longer necessary to enter the physical space of a library in order to get quality reference service. One further strength of NCKnows—particularly when compared to other instant messaging products—is its co-browsing feature, which allows the librarian and patron to interact in databases and electronic resources in real time, thus maximizing the instructional capabilities of the service.

But, of course, there are some weaknesses of the NCKnows program. As the above data suggest, your library patrons will very often not be serviced by your librarians, which can lead to a poor or unsatisfactory or simply different level of service. Along these same lines, you as a service librarian will very often service patrons from other libraries, which can be frustrating—particularly if the patron wants to renew books they have checked out or has other library-specific queries. In addition, findings from the NCKnows project evaluators published in a recent article (Pomerantz, Luo, and McClure, 2006) indicate two significant considerations, especially for academic librarians: (1) 24/7 librarians (or those librarians who staff the service after NCKnows librarian sign

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off) provide relatively unsatisfactory service; and (2) NCKnows patrons, regardless of whether they are helped by NCKnows or 24/7 librarians, expect assistance from a public library ethos/approach or, in other words, want simple answers and not guidance to resources.

In conclusion, it needs to be investigated whether the fact that Randall services more patrons than has patrons serviced is a marketing, staffing, or service issue. However, the data as revealed above indicates that 76.97% of Randall patrons had questions that were completed or satisfied. This is certainly reassuring but more examination of the data as to when these patrons were serviced (i.e. were the majority helped when our reference desk is closed?) would be illuminating.

CONCLUSION

Ultimately, when deciding upon products and systems to aid you in assisting your library patrons most effectively and efficiently, attention to data collection and interpretation will prove invaluable. Furthermore, reviewing research such as above from companion libraries will also inform these all-important service decisions.

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Practical Models for RSS Information Delivery

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The average Internet user in the United States does not know what RSS is, even though some may be using it every day. This seminar will demystify the meaning and concepts behind RSS. Participants will learn the meaning of RSS, its history, and a few ideas how they can use it at home and in academia.

WHAT IS RSS AND WHAT IS ALL THE BUZZ?

RSS is an acronym that stands for several things. Most commonly, it stands for *Really Simple Syntax*. Also, *Rich Site Summary* and the more obscure *Resource Definition Framework Site Summary* have been used. The acronym itself is frightening, and neither it nor the fully realized of any of its three definitions are very helpful in revealing its purpose to a lay-web user.

Common web browser makers realize the marketing difficulties that accompany any poorly labeled product, and for their part have made attempts to repackage RSS. Firefox calls it "Live Bookmarks." Internet Explorer, at least in its upcoming IE 7 browser, calls it simply "Feeds." And therein, hopefully, lays some hint as to just what RSS really simply is.

RSS is essentially a series of small snippets of text living on the World Wide Web, written in one of the simplest of languages of the web (XML – but that is a different story). Its output, what you as a web surfer will see, is not unlike what you see on any webpage. Its purpose, just like many other web pages, is to bring you information when you request it.

Let's examine the last statement, "bring you information when you request it." Email brings you information, delivered to your inbox. Search engines bring you information, delivered to your browser. Surfing from web site to web site brings you information, also delivered to your browser. What is different for RSS? The difference is in the delivery method used to bring you the information and where the information lives when it is brought to you.

Imagine subscribing to a print newspaper. Every day it is delivered to your door, as you would expect. But suppose you wanted to read two or three newspapers a day? You could subscribe to them, as well, delivered right to your door. At the end of the day, you have three old papers to pile up in your basement. This is a lot like email, it comes to your inbox and piles up until you cart it out or delete it. Whether or not you read the emails, they stack up. And often, you get flyers and coupon books that you did not ask for and do not want, to boot (SPAM).

Imagine now that you do not subscribe to a print newspaper because you do not want papers stacking up. That is a fire hazard, as everybody knows. So each morning you don your favorite leisure pants and cardigan and take a brisk stroll to the corner newsman who sells his company paper. Your idea is to simply read the headlines there, without taking a paper home with you. Good idea. But suppose you still wanted to read two or three newspapers a day? You might have to walk to two or three newsmen, and that could take all morning. This is a lot like surfing the web, going from website to

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website to read your news. You have no residual papers piling up, but you have to visit each site individually.

Well, what if you struck a deal with all of the newsmen of all of the papers you really enjoyed, and because you are such a charismatic individual and they all enjoy looking at your cardigan so much, they agreed to stop by your house each morning, let you browse through their headlines, and then move along, taking their used papers with them. This is a lot like RSS.

With RSS, you subscribe to a *feed*, much like you might subscribe to a newspaper or magazine. The feed is delivered to you, without SPAM, and then disappears when you read it. There is no build-up of items read or unread. The feed typically consists of a headline, a short description of its contents, a hyperlink (we are on the web, after all) to the full version of its contents, and maybe an author's name, a time of publication, or a small image. That is, simply, what RSS does.

Just to take things a bit further, though, but only because it applies to RSS, what if you really did not want all of these newsmen stopping by your house everyday at 9 AM? What if you only wanted them to stop by when you *felt like* they should? And then, when you felt like it, they should all appear with headlines in hand quickly and orderly. Again, RSS is a lot like that. RSS feeds are only delivered to you when your *aggregator* requests them. You can set preferences in your aggregator telling it when it should collect (or *aggregate*) your feeds.

Think of the aggregator as your front door. You only open the front door when you want to see the newsmen. When you open the front door, the newsmen are there. Likewise, if you want to read your headlines, you open your aggregator. The news is there, waiting for you. If you do not want to read your headlines, you do not open the aggregator. When you do finally open the aggregator, you simply tell it to bring you only the newest news, and all the old news vanishes, simple as that (of course, if you wanted to keep the old news around, you could do that, too).

Your front door and your aggregator share a few things in common. Both are secure. They do not let unwanted things in such as SPAM, robbers, or stray cats. Both open to content that you want such as your news headlines, your flower bed, or your beautiful children who remembered your birthday and are arriving with the grandkids.

In short, RSS is a tool to help you subscribe to feeds. Feeds are the headlines and brief descriptions of fuller content. Feeds are collected in aggregators, which you open whenever you feel the need to read your feeds. Also, much like a newspaper, a feed is not just headline news. It also can contain lifestyle articles, cooking recipes, comic strips, games, opinion pieces, and much more.

And as simple as that is, you think they might have thought up a better name for it.

Just as doors have a variety of ways to open them (knob-locks, dead-bolt locks, chain-locks) aggregators have a variety of ways to subscribe to feeds. There are literally hundreds of types of aggregators, so it would be difficult to explain how to subscribe to a feed using each. However, mostly the process consists of two or three mouse-clicks.

If there are hundreds to choose from, how do you pick an aggregator? You break them down into categories and then select one from the category you prefer. The three main categories are:

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1. web-based
2. desktop-based
3. browser-based

Web-based aggregators are literally a website that you visit online. You log in and your feeds and preferences are all available there for you. A browser-based aggregator is an aggregator that works as a part of your browser – it is specific to the browser you use on your computer. This can be an after-market download that you install into your browser (Firefox will allow you to do this). Commonly, though, modern browsers are built with RSS aggregator capability already integrated. Finally, desktop-based aggregators are a free-standing application that runs on your computer independent of a web browser.

The advantage of using a web-based aggregator is that you can access your feeds wherever you can access the Internet. Simply visit the URL of the aggregator, log in, and all your favorite feeds that you have already set up are there waiting for you.

The advantage of using a desktop-based aggregator is that you will have more capability to customize how your feeds are delivered to you. Typically, stand alone desktop applications are more robust in their features than the web-based dependent aggregators. However, you cannot take it with you – unless you take your computer with you.

The browser-based aggregators are similar to desktop aggregators in that they offer good features. However, they are limited only to the browser you have it installed on and they are not portable like the web-based aggregators are.

All three types are commonly free to download and use. Some are available for a nominal fee. Some even come pre-loaded with subscriptions based upon your preferences.

That is what RSS really simply is.

BEHIND THE SCENES

RSS was created by Dave Winer for UserLand software in the late 1990's. There are competing accounts as to the "inventor" of RSS, but that is OK. There are actually almost ten different versions of RSS, many of which are parallel versions. These include RSS 1.0, RSS 2.0, and ATOM. All three are different type of the same technology. Also, there is a variety of sources behind RSS that all have different stories. Apple, Microsoft, and a handful of developers have played roles. It is murky. What isn't?

The XML that powers RSS looks a lot like this:

```
<rss version= "1.0">
<channel>
<item>
<title>I am learning about RSS!</title>
<link>http://library.uncw.edu</link>
<description>Visit the UNCW Randall Library</description>
</item>
</channel>
```

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</rss>

Imagine that! When you put the text above into a basic text-editor and save it to the web as "*sample_name.xml*", you have created an RSS document. Who knows, next you might be writing articles, too. The syntax of XML in this case is very simple. The tags "title", "link", and "description" are self-explanatory. "Item", "channel", and "rss" are not as clear, but no mystery, either. The syntax changes slightly based on the version of RSS you are writing.

An aggregator will ping the server where the xml document lives, asking it if there has been a recent change to it. If there has been, then the aggregator will request the new XML information from the server and display it to the user in a readable format (headline with a brief description and a hyperlink).

RSS is the technology that is behind the popular podcasting and vodcasting trends. Again, Dave Winer was instrumental in helping make the transition from simply delivering text, as in the RSS feeds discussed earlier, and delivering audio and even video, as in the case with a podcast and vodcast.

APPLICATIONS FOR RSS

Aside from collecting news and personal interest stories, RSS can be used to distribute work-related content to a large distribution area in a short time with low expense. Feeds can be used to compliment existing news services on campus. Community newsletters can use RSS to deliver fresh content to readers who may not wish to check the newsletter website daily. Emergency alerts can also be distributed through RSS pertaining to weather, school closings, and police reports, arriving to the users' aggregators quickly and with low-bandwidth requirements.

In addition to news sites, people use RSS to subscribe to favorite weblogs. A reader might be able to use RSS to glance through twenty or thirty blog posts in a few moments, rather than visiting the bookmarks of each individually. Movie houses offer feeds for their latest releases. Libraries can do similarly for new titles or DVD they recently cataloged. Athletic departments can offer feeds of sports schedules and scores. University alumni associations can broadcast feeds to graduates who may not think to visit the campus website frequently for news.

The applications are as multiple as is the creativity of users. When people asked, "what if we could subscribe to audio or video," a whole new internet trend sprang up. Now users can subscribe to the morning audio news feeds for NPR, or the President's Weekly Radio Address, and any number of garage-based pod casters who upload their audio files to the web for subscriber consumption. Each day when you fire up your aggregator, there is fresh content for you to enjoy, new headlines, new videos, or new audio.

RSS is a very exciting phenomenon. Do not be afraid of the acronym. I encourage you to use your favorite search engine to locate a couple of free aggregators to download and test. Begin to subscribe to feeds. Get a feel for how the process works and then ask how it could be applied at your college or university. The great thing about the Internet is that it opens technology up for mass consumption very rapidly.

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When a large amount of people have access to new conceptual platforms, such as RSS, there can arise a swell of new ideas based upon that foundation.

What does this mean? RSS voicemail? RSS television programming? The innovation of RSS means a way to deliver information quickly and freely independent of proprietary software (because of its XML roots) to cell phones, PDA's, Macs, PCs, and even devices not yet invented. At the very least, it is a great way to avoid having to walk to ten different newsstands every morning.

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<http://www.purplepages.ie/RSS/netscape/rss0.90.html>

David Winer's History of RSS

<http://blogs.law.harvard.edu/tech/rssVersionHistory>

RSS SPECIFICATIONS:

RSS 1.0 <http://web.resource.org/rss/1.0/spec>

RSS 2.0 <http://blogs.law.harvard.edu/tech/rss>

RSS 2.0 <http://feedvalidator.org/docs/rss2.html>

Academic Sites Using Feeds:

Cyber Stacks - very nice listing already compiled

<http://www2.iastate.edu/~CYBERSTACKS/RSS.htm>

MIT - Feeds for research literature

<http://libraries.mit.edu/help/rss/feeds.html>

TOOLS:

Pings your Instant Messenger when you have a new feed

<http://immedi.at/>

Receive images via RSS that feed into your screensaver image (MS IE 7 Beta 2 install)

<http://www.microsoft.com/windows/ie/ie7/ie7betaredirect.msp>

RSS Calendar – Create a calendar that offers RSS feeds to events posted by the administrator, updated in real-time to your website.

<http://www.rsscalendar.com/rss/>

Movable Type – create blogs and feeds from your own server

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Expertiza: Reusable Learning Objects and Active Learning for Distance Education

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The Expertiza platform is a divide-and-conquer approach to producing reusable learning objects through active-learning exercises. Students select from a list of tasks to be performed, with several students selecting each task. They prepare their work and submit it to an electronic peer-review system. The work is reviewed by other students, who offer comments to help the submitters improve their work. The best submissions for each task are selected for use in later courses. These learning objects can be improved iteratively; next year's class can refine and improve the previous year's contributions. Expertiza gets students working together to improve others' learning experiences. It helps them learn; by making them think through the lecture material and apply it to a real-world situation, just as they might do on the job. Because the interactions are asynchronous over the web, distance education students can participate on the same basis as on-campus students. This paper briefly outlines the philosophy behind the system and walks the reader through a demo of the system.

THE EZPERTIZA RATIONALE

In the traditional classroom, homework serves to show that students are keeping up with the course material. Everyone is assigned the same homework, and once graded, it is "thrown away," never to be used again. Why is it done this way? Because there's a certain economy of scale to grading many copies of the same thing. The first homework may take a half hour, 45 minutes, or even an hour to finish, but there's a fairly steep learning curve, and after a dozen or so papers have been graded, the rest go much more quickly. Since all students have done the same work, the instructor may save the best submission to use as a "model" in later semesters, but there just isn't much point in keeping redundant copies of the same work.

We know that students benefit from doing work that is more inductive, more like what they will do when they go out and get a job. And indeed, in some courses, faculty assign semester projects, where students work, possibly in teams, on different problems. But such exercises must be used sparingly, because there isn't enough time to grade many assignments where the answers are all different and there are no economies of scale.

Peer review engages the whole class in giving feedback to each other. Instead of having dozens of papers to review, the student is assigned only a few other papers (usually no more than four). This overcomes the problem of not having enough time to give adequate feedback on custom projects. Of course, peer feedback is not the same as expert feedback, and quality-control measures must be taken. Toward this end, we employ rubric questions and reviews of reviews, as explained in the next section.

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Electronic peer review is one step ahead, because not only does it facilitate copious feedback, but it also makes it possible to take the best submissions and assemble them together into a “learning object” that can be shared with other students—either later semesters of the same course, or courses at other institutions. For example, students might be asked to provide another *example* [GES 06] of one of the difficult concepts covered in the class. With different groups of students choosing different modules or different chapters from the textbook, good coverage of all the course material is assured.

Having students work with each other to improve their work is an example of *active and cooperative learning*. Students do not passively absorb what the instructor presents, but rather they use that knowledge to produce an example, a problem, a simulation, or a report, etc. that will help other students learn. They work with other students in creating that product. Many studies confirm that active and cooperative learning is more effective than individual learning [JMJN 81, JJ 89]. and it also has proved pivotal in improving the retention of nontraditional students [Wagn 02]. Valdivieso and Nicolau [VN 1992] suggest that active learning rewards initiative, rather than reinforcing a “factory worker/assembly line mentality” as traditional lecturing does.

Many active and cooperative learning exercises are performed in class, which makes them difficult to extend to a distance-education setting. Electronic peer review, because it is asynchronous, makes it possible for distance-education students to participate on the same basis as other members of the class. It should be noted that online discussions, too, allow distance education students to participate, but they need to be monitored and graded by the course staff, which is a lot of work, and makes it less likely that students will get the volume of feedback they need to improve their work.

An important side benefit of the Expertiza approach is that it makes it almost impossible to plagiarize. Because students have to submit their work, get reviews, and revise their work, it’s not possible to simply copy someone else’s Web page and turn it in as a final product. The fact that the work is divided up into small pieces (e.g., write an exercise for this chapter) with only a few students choosing each piece means that the pool of potential co-conspirators is very limited.

Expertiza facilitates better teaching too. The first reason is that the instructor has more learning objects at his disposal. Homework problems and tests questions can be commissioned. The instructor can then use the best of these in assignments and tests in future semesters. Our experience is that about 1/4 of student-authored problems are usable in some form.

Nowadays, multiple-choice tests are frequently administered by computer. Almost all learning-management systems have their own online learning tool. Dedicated applications such as LON-CAPA, Mallard, and WebAssign are also widely used for quizzing. This makes it possible for an instructor to assign “mastery” quizzes to a class, covering each lecture, or each week’s work. The use of these quizzes to provide feedback to students, and to provide feedback to the instructor on the class’s progress is called formative assessment [Bost 02]. Black and William [BW 98] reviewed 250 journal articles and book chapters on formative assessment to establish whether it raises academic standards. They found that the use of systematic formative

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assessment produced significant learning gains. With Expertiza, students can sign up for particular lectures and make up questions over those lectures. The best of the questions can be included in formative-assessment quizzes.

The ability to have students generate learning material is of particular benefit to courses on the cutting edge of technology. Of necessity, the body of knowledge covered in these courses changes frequently. On the newest material, few if any examples, homework problems, or test questions are available. The Expertiza approach helps to create them, so that the second time material is covered, there will be ample materials available.

Finally, Expertiza improves resource allocation. It offloads much of the grading work from the instructor and TAs, so they are free to spend more time working with individual students. The ideal class is often seen as a small class, because the instructor can interact most closely with the students. But with Expertiza, large classes produce more examples, more formative-assessment instruments, and more test questions, all of which help the students learn and make the class easier to teach. Expertiza makes teaching large classes an advantage!

THE EXPERTIZA PLATFORM

The Expertiza platform actually consists of three separate, but related components. Each component performs a specific task to accomplish the final goal of producing reusable learning objects. The three components are:

- Shimmer – for signing up for assignments, allowing a task to be divided into individual parts
- PG (Peer Grader) – for submitting and peer-reviewing work
- Conoscenza – a web-based database that makes the best student's work accessible to registered users over the web.

PEER-REVIEWING WORK WITH PG

When entering into a review cycle, students will develop their homework in the form of one or more electronic documents. These documents can be in any format, as long as their peers will be able to download the file and view it on their personal computers. The first step with PG is for the student to submit their work to the system. This process is demonstrated in figure 1.

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Figure 1. Submitting an assignment in PG

Once a student submits his/her work, that submission is copied to a new Web address, concealing the submitter's identity for the sake of anonymity. Once all submissions are received, the instructor can go into the system and create reviewer mappings. This is done semi-automatically, meaning that the instructor needs to tell the system when to create the mapping, but the mapping is randomly generated based on the students who have signed up for the assignment. The instructor tells the system the number of reviews and reviews of reviews that each student should do, and the mapping is created. The instructor also specifies a rubric—a set of questions—upon which the submission will be evaluated.

A student logging in has a choice of whether to submit, review, or review reviews (see figure 2). At this point, students can log into the system and start reviewing their assigned submissions. This process is double-blind—the reviewer does not know the author, and the author does not know the reviewer. Author and reviewer can communicate through a shared Web page, sending comments and questions back and forth.

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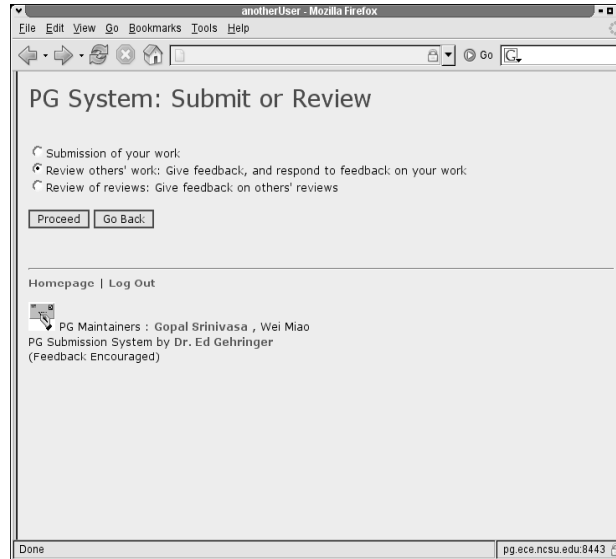


Figure 2. Choosing a Function

The review process is based on a rubric. This rubric consists of several questions designed to have the reviewer give meaningful and constructive criticism to the author. The reviewer assigns a score to each question (e.g., on a scale of 1 to 5). The author's grade is calculated from these scores. Optionally, the reviewer can provide prose feedback on each question. An example rubric is shown in figure 3. The grades that all reviewers have given this author are averaged, and this becomes the author's grade for the submission. Note that PG allows for multiple submit-review cycles. Authors can resubmit their work, and be re-evaluated by their reviewers, as many times as the instructor specified when the assignment was created. We have typically used two or three review cycles per submission. When three cycles are used, the instructor usually reviews the students in one of these cycles.

Review Criteria:

Please select a score for each of the following questions. 1 represents the lowest score.
For true/false questions, true is assigned the value 1 and false is assigned the value 0.

Questions	Weight	Select score
Is the problem relevant to the material covered in the class? Feedback: <input type="text"/>	1	1
Would doing the problem help students to learn the material? Feedback: <input type="text"/>	1	1
Is the problem stated clearly? Feedback: <input type="text"/>	1	1
Is the solution to the problem correct and unambiguous? Feedback: <input type="text"/>	1	1
Is the solution stated clearly? Feedback: <input type="text"/>	1	1

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Figure 3. A Grading Rubric

The final step in the review cycle is to review reviews. In this step, students evaluate the *reviews* that other students have written. This is a critical step to ensure quality. The reviews of reviews constitute a fraction of the grade—usually about 20%—for the student. When students know that their reviews will be reviewed, they are much more likely to put thought into giving helpful feedback. Without this step, students would have an incentive to give all their authors high scores and little feedback, since it is less work for them and authors would not object.

During any of the phases (submission, review and review of reviews), a student can view the grades given by his/her peers in the form of a report as shown in figure 4 and figure 5. Figure 4 displays a summary of grades at each stage in the review process. Figure 5 is a detailed report of grades given by a reviewer against each rubric question. The grade report not only helps a student evaluate his performance but also makes it clear how the final grades were determined. More importantly, by viewing the scores for each rubric question, a student can evaluate what is lacking or where there is room for improvement.

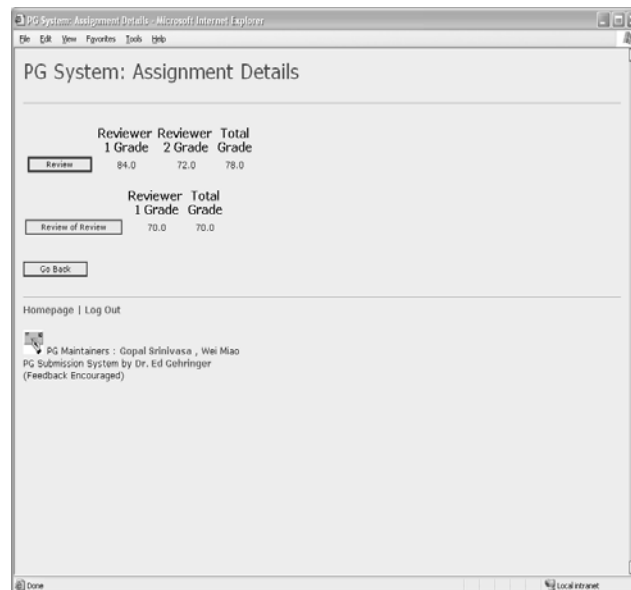


Figure 4. Grade Report Summary

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Rubric Question	Reviewer #1	Reviewer #2	Total Grade
Readability--Is the paper easily understandable?	4.0	5.0	4.5
Coverage--Does it cover the main points of each paper?	5.0	5.0	5.0
Integration--Does it describe the material of the two papers together, rather than one after the other?	4.0	3.0	3.5
Clarity of summary--Is it well written and does it cover the material?	3.0	3.0	3.0
Mechanics--Is the paper free of spelling or punctuation errors?	5.0	2.0	3.5
Total	4.2	3.6	3.9

Figure 5. Detailed Grade Report

USING PG AS AN INSTRUCTOR

As an instructor, it is important to be able to keep track of ongoing assignments, respond to questions, and give feedback to students regarding their submissions and reviews. PG provides a powerful interface for setting up assignments. This interface allows the instructor to create and modify assignments and rubrics, view summary reports of the reviews, view grade reports for each student, and manage review mappings. This interface also allows the instructor to impersonate a student (see figure 6). This feature allows the instructor to perform tasks as if he or she were the student without needing to know students' passwords. We have found this to be a very useful tool when answering questions that students might have about their reviews.

PG System: Impersonate a Different User

Currently logged in as 'tfg'

Select a new user to log in as:
acwatson

When logged in under someone else's user name, you will only be able to perform 'Student' tasks. Select your own user name in order to log back in with full permissions.

Change User

Homepage | Log Out

PG Maintainers : Gopal Srinivasa , Wei Mao
PG Submission System by Dr. Ed Gehringer
(Feedback Encouraged)

Tuesday, February 20, 2006

pg.ece.ncsu.edu/8443

Figure 6. The Instructor Interface

CONCLUSION

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Expertiza provides a platform to refine and reuse learning objects. Students learn by reviewing their peers' work. By creating reusable learning objects, they help improve others' learning opportunities in the course of doing their own homework.

Expertiza helps integrate active and cooperative learning into courses—techniques that have been proven their ability to help students rise faster on the learning curve. The materials that students create assist the instructor in teaching future courses. Thus, the Expertiza approach benefits the instructor, current students, and future students alike.

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Using Macromedia Breeze Presenter to Increase Authentic Learning among Online

Learners in a Master of Public Health Program

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The demand for specific professional skills and knowledge in the public health workforce is increasing. Practitioners in all areas of public health are under mounting pressure to demonstrate their expertise by completing a course of study in either an accredited certificate in a field of public health or by earning a degree from an accredited school of public health. Often, these professionals are experienced, mid-career professionals returning to school after a substantial absence. These learners are seeking skills and knowledge that can be directly applied to their professional practice. The challenge facing instructors teaching these students is to make the course material and exercises as relevant to the learners' professional practice as possible. The emerging theoretical construct of authentic assessment offers a useful framework for instructors to increase instructional relevance to professional practice. The following is a brief synopsis of the experiences of two online instructors and one student in an online public health course that employed Macromedia's Breeze Presenter in an effort to increase authentic learning and assessment opportunities.

AUTHENTIC LEARNING

THEORETICAL BACKGROUND AND LITERATURE

Authentic learning theory is based at a fundamental level on social constructivist theory. Social constructivist theory postulates that knowledge is constructed within a contextual framework grounded in the learner's social environment. Meaning has no relevance outside human's interaction with each other and their environment. Learning is a social process which occurs through dynamic interaction. There is an ongoing process of knowledge creation and shaping that occurs as members of the community negotiate meaning (Hung, 2002.)

Within the broader construct of social constructivism is the theory of situated cognition. Building upon the core concept of knowledge as a socially constructed element, situated cognition further defines the conditions of learning by maintaining that learning is dependant on the environment in which it occurs. Specifically, situated cognition postulates that learning is optimized in an environment that most closely replicates the conditions in which the learner will use the skills and knowledge gained in the instruction (Lave & Wagner, 1991).

As with social constructivism, situated cognition's theoretical foundation is built to a great degree on Vygotsky's social learning and sociocultural theories (Altalib, 2002). The meaning that an individual attaches to given concept or action is grounded in the social environment of the learner (Vygotsky, 1978). When instruction is embedded in real life contexts, it enables the learner to make relevant connections to their prior

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experiences and also increases their ability to transfer any new knowledge gains back to their practice environment (Herrington and Oliver, 2000). Hung and Chen (2001) maintain that the concept of legitimate peripheral participation, whereby less experienced practitioners learn from their more experienced community members. This concept is similar to and draws upon Vygotsky's concept of the more capable other and suggests the actions that occur in the Vygotskian concept of the zone of proximal development. This is not a simple transfer of skills and knowledge; important nuances are contained in the way in which knowledge and skills are employed as the novice practitioners' apprentices within a community of practice.

The concept of a community of practice was introduced by Lave and Wenger (1991). They maintain that learning occurs within social groups centered on a shared activity. Learning and practice are inseparable components with meaning being negotiated through the actual practices of the community and evolve together as the learners interact. Within the community are resources, such as tools and genres that have evolved over time and have come to help define the community. Communities of practice have memberships that include practitioners with varying levels of expertise.

Lauzon (1999) cautions educators that communities of practice can also be divisive when individuals become members of separate communities that have conflicting cultures. He specifically cites practitioners who return to school and become members of an academic community that may have differing beliefs, values and practices from the students practice community. The learner may find that their enculturation into an academic community moves them away from central participation in their practice community. Graduates of an online master's of public health degree program found that overcoming the resistance of their colleagues to the graduates incorporating their new found skills and knowledge into their organizations was a major problem in their professional practice (Umble, Shay, and Sollecito, 2003). Merriam, Courtenay, & Baumgartner (2003) also found that membership in one community of practice can be viewed with suspicion by other communities in which an individual is a member. Although their study focused on how individuals who engage in practices that the larger society may consider aberrant became members in what the authors term a "marginalized communities of practice", their findings reinforce the idea that learners continuously readjust their identity within multiple communities to accommodate the acquisition of new skills and knowledge.

Authentic learning is not clearly defined in educational literature. Gulikers, Bastiaens, and Kirshner (2004) caution that in the literature on learning authors define the term "authentic" variably. These researchers do note that one common area of agreement among many authors is the importance authenticity plays in the construct validity of student assessment and finally in the consequential validity once the student is in actual practice. Stein, Isaacs and Andrews (2004) recognized that "authenticity" is used in a variety of ways in literature focusing on learning and curriculum. They found that a common theme is that meanings assigned to the term center around some aspect of reality. Of particular interest is their finding that in the literature, one meaning of authenticity includes students relating their class work in school to their actual professional practice in the field. The authors discovered in their case study of one

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instructor's attempt to make his class on business management more relevant to actual business practice that incorporating real world applications into coursework is difficult. Three elements built into the class contributed to authenticity: assignments requiring collaborative work among the students, providing assignments that involved interacting with the actual business environment, and structuring class work to direct the students to continually reflect on how knowledge gained in the class could be applied in a practice setting.

Vonderwell and Turner (2005) also discovered that a class designed to encourage collaboration among students enhanced authenticity. In a qualitative case study of preservice teachers' experiences and the meaning they attributed to their experiences in an online course titled "Technology Applications in Education," the authors found that both authentic learning contexts and authentic assessment strategies were important factors in achieving a rich learning environment. Interestingly, Vonderwell and Turner also found that changing the instructor's role to more of a collaborative endeavor from the more traditional, instructor centered model of instruction also enriched the learning environment.

Increasing the authenticity of the learning environment did improve the level of professional conversation in a cohort of preservice teachers in two information technology classes. Bird and Rosaen (2005) found that incorporating skills used in actual teaching was valuable for professional learning. The authors contended that the best way to ensure students develop, and more importantly use, the skills they will need in practice is to incorporate them into course work.

Authentic learning strategies can help students overcome the sometimes seemingly huge hurdle between the theory of practice and actual practice. In a case study using an applied research approach, Ingram and Jackson (2004) found that using simulations in an instructional design class for graduate students in instructional design increased the student's perceptions of the experience to be authentic, although the results of the transfer of theory to practice were mixed.

APPLIED AUTHENTIC ASSESSMENT

The Masters of Public Health in leadership online degree program Public Health Leadership program (PHLP) at the University of North Carolina at Chapel Hill's School of Public Health seeks to create a learning environment that provide authentic learning opportunities that replicate public health practice as closely as possible. A major impediment to the program's ability to link academic achievement with practice applications has been the lack tools that allow students to use the skills and knowledge they have gained in the program in a manner they would normally employ in actual practice. This lack of authentic assessment opportunities both fails to prepare these students for the challenges they face in their professional practice and additionally, does not allow the instructors to accurately gage their learning.

For students in asynchronous online programs such as PHLP's, available forms of deliverables to the instructors do not reflect the authentic types of deliverables public health professionals typically use in an actual practice setting. The most common form of class assignment deliverable is a formal paper. In actual practice, public health

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professionals are much more likely to communicate their position in a presentation to colleagues and stakeholders involved in the problem under review. The ability of our students to communicate clearly and persuasively is of particular importance as they work toward their goal of becoming public health leaders.

Macromedia's Breeze Presentation is web-based communications software that allows users to make multimedia presentations online. These presentations can be as rich in content as presentations delivered in a face-to-face setting. The software is easily downloaded to a computer. To produce a high quality narrated PowerPoint presentation that can be streamed over the internet, a user only needs a computer with a basic sound card or chip set, an inexpensive USB microphone, an internet connection, and access to a Breeze server to host presentations.

THE CLASS

Our class was PUBH 180, Public Health Practice. The class is required of all first semester students in our distance learning MPH program. The class serves as a way to take practitioners from a broad array of backgrounds and give them a common frame of reference for investigating public health issues over the course of the program. The students are assigned to permanent teams for the duration of the course based on achieving a mix of professions, public health experience and distance learning experience. Exercises are problem based, with approximately 90% being team centered and requiring a formal assessment submission. As the course was just about to begin in the fall of 2005, we incorporated Breeze Presenter as a tool to increase authentic learning in an online asynchronous instructional format. We expected to see an increase in authentic learning as demonstrated by an increase of those traits predicted by the literature to be associated with authentic learning, such as peer collaboration and the perceived utility of the tool's end product in an actual practice setting. We selected four assignments for the students to create a Breeze presentation as an assessment deliverable. Each assignment required the students to consider an actual problem in public health practice and to engage in an asynchronous discussion, bring into the discussion their own experience as well as the assigned readings and lectures for the topic under discussion.

THE LEARNERS

Our students ranged in experience from novice to veteran distance learners; the most experienced having completed at least five distance learning classes. More than two thirds of the students were female (n = 32). Cultural diversity was lacking among the students, with only two African Americans and two Hispanics; the remaining 42 students were Caucasian. The students range in age from 28 to 58 years, with an average age of 41 years. The students work experience (excluding two students for whom we had no work data) in public health or a related field such as primary health care, ranged from 5 to 37 years, with an average of slightly more than 16 years. Seventeen distinct practice areas are represented in this cohort of learners, with eight physicians comprising the largest single area of practice. All 46 students are employed either full or part-time.

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WHAT WE OBSERVED AS INSTRUCTORS

We were wholly unprepared for the level of technical problems we encountered in the class. Our brief pilot test of Breeze Presenter, which consisted of one of the instructors in the course quickly and easily producing a single lecture in Breeze Presenter, led us to draw the hasty and erroneous conclusion that Breeze Presenter was a reliable tool that was simple to use. Approximately half the students in the class encountered technical problems in producing Breeze Presentations. The problems were varied in nature and severity. Some students had no problems. While most students overcame the problems, some students' problems proved so intractable that we excused the student from attempting any further work in Breeze Presenter and asked that their teammates who were successful working with Breeze Presenter handle all aspects of the team presentation involving Breeze. Because of the complex interaction of the Breeze Presenter software with the wide range of hardware on students' personal computers, the problem solving ability of the instructors was quickly exceeded. The Online Instruction Group (OIG) at the School of Public Health provided as much support as possible, but because this course was the first attempt to use Breeze Presenter in the school, the OIG was learning along with the students and instructors and was thus not able to offer their usual high level of user support. Macromedia provided very limited user documentation and technical assistance. Despite these hurdles, our students worked hard to overcome their technical difficulties and did an outstanding job of mastering a new technology.

One continuing frustration we have as online instructors is in seeing our students engage in an excellent online asynchronous discussion and then submit a written summary of the discussion that does not truly capture the depth and quality of the discussion that we observed. We found that their Breeze Presentations more accurately captured these qualities and were allowed us to better assess the students' learning than a written summary. It is simply impractical to spend the amount of time necessary to assess student learning by closely monitoring the online discussions in classes such as ours which require extensive discussion among the students. Breeze presentations seem to offer an improved method for assessing learning. Another positive outcome from using Breeze presentations was our observation that the variability in quality among presentations using Breeze was less than in other assessment forms we had tried and resulted in higher overall quality.

We had hoped to include results from a survey conducted at the end of the course to assess the efficacy of Breeze Presenter as an authentic assessment tool. However, there were problems with the survey's reliability which kept us from reporting the results. Instead, we invited one of our students, who is also an experienced online instructor, to present her experience in the course with Breeze Presenter from a learner's perspective.

A STUDENT'S PERSPECTIVE

As a student in the Public Health Leadership program at UNC Chapel Hill, my Public Health practice course integrated the use of Breeze Presenter software as an

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assessment tool. Students were asked to produce a Breeze presentation that demonstrated their mastery of four lesson's content. The following discussion highlights my perspective based on my experience with Breeze as an educational tool.

BENEFITS -BREEZE HELPS TO BUILD THE TEAM.

A final product produced through Breeze Presenter requires multiple steps, including initial discussion of a particular topic in order to collect the content, decisions about presentation length and progression, literary voice, and overall look and feel of the final production. Each of these steps provides team-building opportunities that far outweigh the preparation and delivery of a discussion summary document.

BREEZE PROVIDES AN ADDED ASSESSMENT COMPONENT.

From the perspective of student, as well as experienced instructor, this student saw Breeze as providing an opportunity for the instructors to assess students beyond the acquisition of applied knowledge. Breeze allows instructors to assess students' skill in information delivery – an important skill regardless of a students' field of study.

BREEZE ENHANCE POWERPOINT.

As imbedded software in PowerPoint, Breeze Presenter enhances the capability of a PowerPoint presentation to deliver a message or impart knowledge.

THERE IS VALUE IN USING BREEZE IN A DISTANCE LEARNING PROGRAM.

For a program that is administered fully on-line, interaction with students is diminished. Breeze allows students to demonstrate competencies in a more creative format than by paper submission alone, and it allows for instructors to see a wider variety of skill among students.

CONCERNS -PRODUCING A BREEZE PRESENTATION IS TIME-CONSUMING.

Much time is spent working on aspects of the presentation that are not related to core content.

WHO SUPPORTS IT?

This student had significant technical problems with aspects of the Breeze software once it was downloaded and installed. Technical assistance requests were made of the university IS services, Breeze administrator services, as well as host computer assistance services. While each

WHAT ARE THE COURSE OBJECTIVES?

This may be the most critical issue with Breeze and a consideration with other technologies as well. This course contained 10 lessons and resulted in the development of ten group project Breeze presentations each demonstrating the acquisition of student knowledge and competency. However, a significant amount of time was spent in the aspects of presentation design and delivery that, in the case of this course, were supplemental to the core objectives. Had this been a presentations course, the work

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involved in the presentation delivery and design would have been well placed. However, this was not a skills-building course, rather the course objectives related to basic public health knowledge acquisition. No credit, therefore was afforded the time and skill involved in presentation design and delivery.

IS THIS REAL-TIME?

Requiring students to spend time developing a skill should have direct application in the field. In the field of public health, presentations are widely used as a method of communication and therefore providing opportunities for the development of presentation skills may be of critical and core value in a public health leadership program. However, thought must be given to the venue through which presentations are delivered and whether Breeze Presenter adequately supplants face-to-face presentation delivery.

THE BOTTOM LINE - BREEZE PRESENTER CAN BE GREAT TOOL TO BUILD SKILL IN ORGANIZING FOR PRESENTATIONS.

Key here is to be sure that presentation skill development is part of the course objectives. Otherwise a good portion of the time students spend in the course will go without credit.

MUST BE SUPPORTED ACTIVELY, ANTICIPATE TECHNICAL DIFFICULTIES.

Distance learners have myriad concerns related to technical capacity. When a new technology is introduced, technical issues must be anticipated.

MUST FIT WITH COURSE GOALS AND OBJECTIVES – IT USES UP VALUABLE STUDENT TIME.

This has been a running theme throughout this paper. Instructors must appreciate the time dedicated by students to the use of this or any technology. They must be confident that acquisition of skill in such technology fits within the core objectives of the course or overall program and must explicitly share those objectives and expectations with students.

CONCLUSION

Students want and deserve assessment forms that both allow instructors to fairly assess the students' mastery of learning objectives and that will also enhance learning itself. Breeze Presenter promises to offer online instructors a valuable tool to increase opportunities for authentic assessment. However, in employing any tool instructors need to give careful consideration on how they will integrate the tool into the course. Employing tools that offer promise but are not well tested or supported is an act of hubris on the part of instructors who must then depend on the skills and persistence of the learners to make the tool work. Evolving technologies and the tools they provide offer real opportunities for online learning, but instructors should practice valid assessment methods themselves when deciding to adopt any new tool.

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VIRTUAL LEARNING MUSEUMS AS COLLABORATIVE EXPERIENCES: Death and Dying in Appalachian Culture

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OVERVIEW

WHAT IS A MUSEUM?

Close your eyes for just a moment and imagine a museum. What do you see? We are all familiar with museums, those often grand, pillared buildings with hallowed halls filled with breathtaking and edifying artifacts and treasures. The Louvre, one of the most famous museums in the world, is perhaps the archetype of what we think of when we hear the word "museum."

But conceptions of museums are changing rapidly in the information age. As early as 1937, Jules Verne predicted that "the time is close at hand when any student, in any part of the world, will be able to sit with a projector in his own study at his or her own convenience to examine any book, any document in exact replica." (Conhaim, 33). Perhaps it is time to rethink even institutions as time-honored as the museum.

If we think of a museum not as a place but as "the way we connect our past with our present and our future," as UK Arts Minister Estelle Morris put it, then perhaps we can imagine different possibilities for museums in the future and think outside of the traditional box/building. (Conhaim, 32).

WHAT IS A VIRTUAL MUSEUM?

This rethinking of the meaning of museum is most evident in the form of VIRTUAL MUSEUMS. What is a virtual museum?

- A virtual museum is a collection of electronic artifacts and information resources - virtually anything which can be digitized. The collection may include paintings, drawings, photographs, diagrams, graphs, recordings, video segments, newspaper articles, transcripts of interviews, numerical databases and a host of other items which may be saved on the virtual museum's file server. It may also offer pointers to great resources around the world relevant to the museum's main focus. (McKenzie, 1)

According to a recent article, "in the U.S. alone there are between 15,500 and 16,000 museums....about 285,000 museums worldwide already have the .museum domain name established in 2001, with at least some on-line presence...there are no official statistics for the number of virtual museums or exhibits in the U.S. or worldwide, but we know that there are thousands of them---and that the number is growing rapidly." (Conhaim, 31).

TYPES OF VIRTUAL MUSEUMS

James McKenzie divides virtual museums into two main types, learning and marketing, (though in practice the two often overlap).

- Learning Museums - Web sites which offer substantial online learning resources which invite many repeat visits and enable substantial investigations and exploration.

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- Marketing Museums - Web sites which are mainly intended as marketing vehicles and communication media to increase the number of visitors to the original physical museum by making more people aware of museum's collections and special events. Such sites may also have museum shop sales as a major goal.

(McKenzie, 1)

Because of the relatively recent appearance of virtual museums as well as the dispersed nature of the phenomenon, there is no paradigm or set typology that is used by all. Museums can also be delineated by the type of audience that they primarily serve.

There is the monastic museum (with a small, devoted, and scholarly audience), the cooperating museum (which works with heritage institutions to build local identity), the made-to-measure museum (which offers uniquely tailored individual experiences), to the mega-museum (with branches and sub-branches and extensive staff and resources). (Conhaim, 31; See also 2001 report, "Museums of the Future"). For the latter, see for example www.smithsonian.org.

Another way of classifying virtual museums is by their relationship to the museum's physical collections. In this case, a virtual museum might simply be a digital reproduction of the holdings of the museum (see for example http://www.louvre.fr/llv/musee/visite_virtuelle, with virtual tours available in four language) Moving along the scale, a virtual museum might house collections that complement and extend existing physical holdings. (see for example www.ima-art.org/cycles, winner of the best on-line exhibit 2005) This is sometimes done in order to protect fragile or immovable materials (see for example <http://www.bl.uk/onlinegallery/ttp/ttpbooks.html>, which digitizes older manuscripts and books, but allows you to leaf through the pages) but, at the farthest end of the scale, it is done in order to host exhibits that could never be done in a traditional museum setting. (see for example www.museudapessoa.net, a wiki-style museum of collective social memory)

THE PROJECT: DEATH AND DYING IN APPLACHIAN CULTURE: A VIRTUAL MUSEUM

BACKGROUND

Whatever type they are, virtual museums have become a major phenomenon in both the on-line and museum worlds. Conservative estimates suggest that 2 million people per day interact with virtual museum sites. (Conhaim, 31) Included in that two million are these lowly college professors. After using a particularly good site in one of my classes, I began to get an idea for how to incorporate virtual museums into my classroom more incisively. I saw many examples of school-museum partnerships on the web and was encouraged about their feasibility. And I had just the course to experiment with having students make virtual museums.

My task was to create a freshmen-level humanities course, incorporating history and literature, to fit into a liberal studies/general education curriculum at a medium-sized regional comprehensive university. I knew from experience that most of the students considering enrollment in the course would have no interest or background in history or

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literature. I chose to create a course entitled “Death and Dying in Western Civilization” in order to capitalize on the apparent drawing power of including a taboo subject, death, in the title and subject matter. It was my intention to use ideas and representations of death to trace larger historical changes, to teach skills of historical interpretation, and to promote lively and engaging classroom discussions. (Cruz, 3)

Teaching death is not like teaching just any historical topic. In most of the literature about teaching death, the overarching question is whether or not death education has any advantages over personal experience. (Cook, 185). Many comparative studies have not been able to show significant advantages to formal death education, especially in a lecture format. (Durlak, 58) I intended to side-step this issue, as my course used death to examine history and so therefore was not directly relevant to personal understanding or experiences of death. In other words, by looking at death historically, I thought we could look at it objectively as well. There were other reasons for approaching the topic this way. Just prior to the start of the course, University administration cautioned me to stay clear of personal experiences of death as it could lead to lawsuits over emotional distress. In order to make sure that students would know what they were getting into, I prepared an introductory lecture where the most sensational images and ideas flashed relentlessly across the screen. I warned them that the course was not for the squeamish nor for the close-minded. The syllabus contained a clause about subject matter that could be upsetting and what to do if you felt that way. I divided the written work into a portfolio arrangement so that students who were not comfortable with some assignments, such as the visit to the morgue, could substitute other assignments. More than any other course, this one had to be constructed with the varying emotional and social needs of each and every student kept in mind.

THE ASSIGNMENT

Now I needed to find them a research project for the course. The first time that I taught the course, I had the students develop a web page based on a very broad list of topics that I generated—from serial killers to ancient Egyptian reincarnation rituals. The project fell short of my expectations for several reasons.

- First, their web pages most simply reiterated information already widely available on the web.
- Secondly, the material was so scattered that, once collected together, the final product was neither distinctive nor coherent.
- Finally, their approach to the project seemed to degenerate into essentially an electronic report.

I wanted them to “use ideas and representations of death to trace larger historical changes, to teach skills of historical interpretation, and to promote lively and engaging classroom discussions” How could I make a project that would encourage these kinds of thinking while at the same time gingerly working with the subject matter and student’s comfort level with it?

THE MUSEUM

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The final piece of the puzzle came together when I took a tour of the Mountain Heritage Center for unrelated reasons. The mission of the Center, which is located on the campus of WCU, is "to celebrate the natural and cultural heritage of the southern Appalachian region. Through our exhibitions, publications, educational programs, and demonstrations you'll discover the rich traditions of the mountains, see the Appalachian region from new perspectives, and come away with an enhanced understanding of its land, culture, and people." (www.wcu.mhc).

Then, after that visit, a star was born...the virtual museum of Death and Dying in Appalachian Culture, to be created by WCU students in conjunction with the curators of the Mountain Heritage Center. This would be a cooperating virtual museum, linked to heritage preservation efforts. It would also be a complementary virtual museum. The museum currently has a number of artifacts connected to death practices, but almost none are currently on display and they have never been organized into a single exhibit. In fact, the museum could serve a larger function. Very little information on Appalachian death practices exists anywhere and I was able to find only a handful of articles and one book. This would be a museum with a distinct purpose, filling a need that went well beyond the classroom walls.

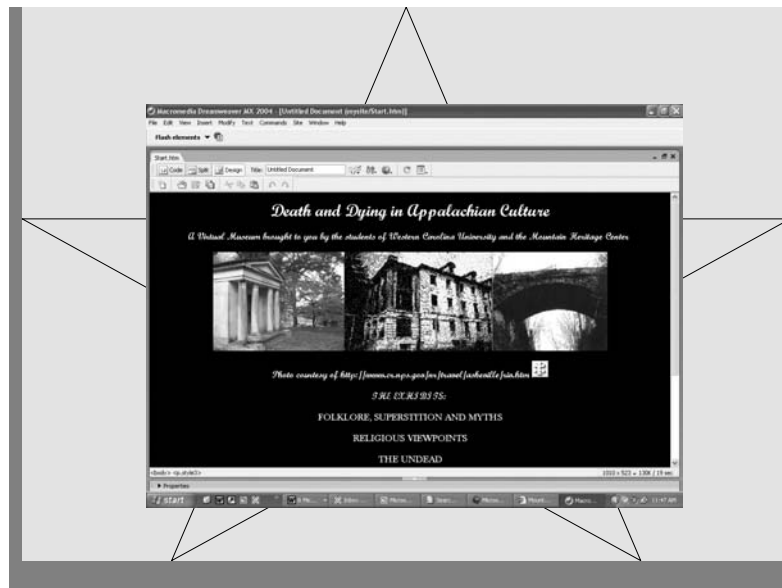


Figure 1. A Star Is Born

The project was designed to allow students to build a museum from the ground up...they became their own curators, both individually and collectively. (Wazlawick, et al, 647), a process which meshes well with theories of constructivist learning. After some background preparation, we had a brainstorming session where the students determined the topics to be covered and the umbrella organization of the site. Then, they divided into teams, each devoted to creating one of the exhibits in the museum. Next, we toured the Mountain Heritage Center and got a sense of how exhibits were done, what artifacts the Center held, and some additional information about folk

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practices relating to death. The final list of topics was still broad, but the students said that they wanted the flexibility to pursue narrower topics within those broad umbrellas.

ATTRIBUTES -

1. Creativity

Next, I set up the pedagogical parameters of the project. First and foremost, I encouraged the students to think creatively about how they might present their information and not to simply put in lots of text and pictures. In class, we viewed several different types of layouts and discussed what they liked and didn't like about each one.

For examples of different layouts in school-partnered virtual museums, see <http://www.lakelandschools.org/lt/Museum/lobby.html> (pretty basic); <http://www.ncgold.com/goldrushtown/> (nicely laid out); <http://www.twingroves.district96.k12.il.us/Renaissance/VirtualRen.html> (threaded) <http://www.pbs.org/wnet/slavery/teachers/virtual.html> (linear with a template)

2. Visual Appeal

Second, each exhibit had to be visually appealing and to invite visitors to want to learn more, even to come back in order to learn more later. I was concerned, however, that the students did not have the training or background to really do this. So, I worked with another professor, Amanda Epperson, and her students in an upper-division history course to help guide our students on the fundamentals.



Figure 2. Visual Appeal

3. Original Sources

Third, each exhibit had to contain original information and materials. I specified that the exhibits had to include at least two primary sources that could not be found

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elsewhere and that any other materials used on the site could not be copyrighted or plagiarized.

(See example from website of how students incorporated songs in "Appalachian Murder Ballads")



Figure 3. Copyright

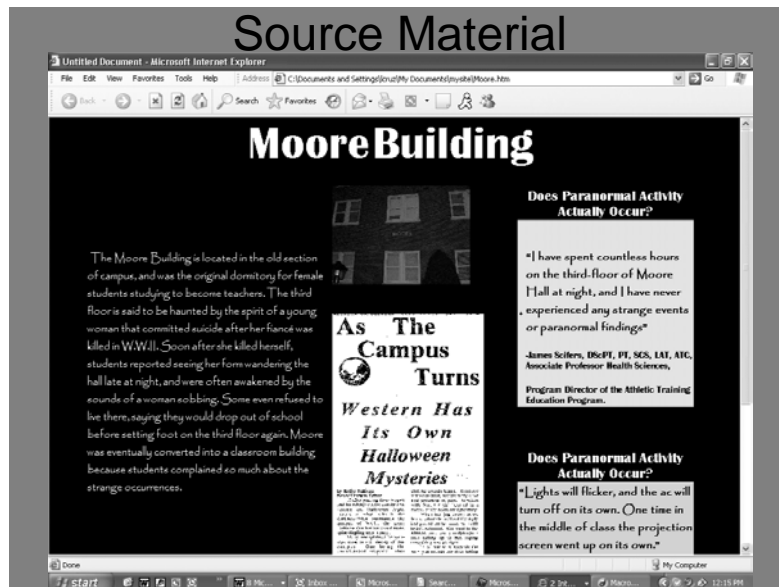


Figure 4. Source Material

4. Technology

Fourth, I strongly encouraged them to make use of the technological tools that we had available in our department. These included digital tape recorders, digital cameras, digital video cameras, and (perhaps most importantly) technical help. (See example from website of original movies created by the students).



Figure 5. Technical Skills

5. Cultural Sensitivity

Finally, we used the project as a vehicle for discussing cultural sensitivity. The class had seen the documentary 'The Dancing Outlaw', in which Jesco White talks about the death of his father. The class found Jesco very funny but Jesco himself was quite earnest. As a museum exhibit, students had to think about how their choices might reflect on the culture of Appalachia. There was one exhibit, on Derek Anderson, a former western student who is currently charged with murdering his family, that we discussed as a class. How would it look to outsiders to include information about Derek on the site? What about the fact that the case is still on-going? Similarly, another student took up an e-mail correspondence with recently captured, convicted bomber Eric Rudolph, who also once attended WCU. Should this correspondence be a part of the museum? In the end, we chose to include the former but not the latter.

COLLABORATION WITH OTHERS

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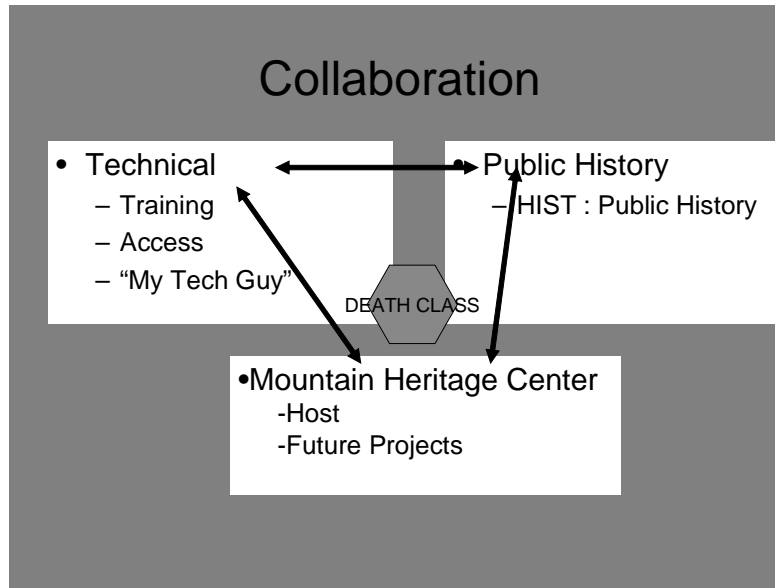


Figure 6. Collaboration

TECHNICAL

Before the project, I had the students indicate their areas of strength using the categories of art/creativity, research/writing, and technology so that I might be able to create balanced groups. I also had them indicate specific related skills, such as photography, graphic design, or html coding. Even with this balance, I did not want to spend a great deal of precious class time teaching students the technological skills necessary to use such programs as Dreamweaver, so I was able to borrow one of the student workers in our IT department who we affectionately called "my tech guy". He answered students' questions about technical feasibility and was ultimately responsible for translating their storyboards and files into virtual reality, so to speak. This was an extended process that continued well into the semester following the end of the course and is, in fact, ongoing to this day.

PUBLIC HISTORY

Dr. Cruz was concerned that her students would not know what made a 'good' virtual museum and that her students, being freshmen, would be intimidated by a research project that would be on display for, in theory, the entire world. One way she thought to avoid this problem was to provide student-mentors in the form of my Introduction to Public History class, course consisting of both undergraduate and graduate students. It has been shown that in most cases students can effectively teach each other. Why my students in particular one might ask? It was because of our subject matter, public history.

Public history, a term that is little known outside the historian's world, is, at the simplest level, the work done by all those who consider themselves historians but are not employed in academia. The main difference between academics and public historians is that public historians, who may range from contract historians, archivists, curators, to national park interpreters, tend to do specific work for hire and actively

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take history to a wider audience. Academics tend to teach and research topics of interest to them and a scholarly audience. It is wonderful and gratifying if their work finds a wider audience, but it is not the main concern. WCU's public history course aims to introduce students to the careers available as well as the methods used and problems encountered by public historians. Technology has revolutionized the way in which the public can interact with history, through the videos, hypermedia, the internet or interactive displays on-site.

Students hoping to find employment in public history, no matter which field, will have to be conversant with technology and aspects of best practice. To prepare my students to assist the Death and Dying students and gain understanding of web museums, I organized a unit on web museums. In this unit we read two articles on history and technology (Wallace 1996 and Petrik 2000), visited visiting good and bad examples of public history websites, and held a brainstorming session on uses of technology in history. Common problems encountered included text-heavy sites, overly-busy graphics, and poor use of images. Excessive use of text is common in real museums as well, and is commonly referred to "books on the wall" syndrome. Like exhibit designers, those hoping to create on-line exhibits must how to present historical information effectively, how to create consistent navigation aides, and, most importantly, how to present information visually with concise text (Bowen 2000). Traditionally, historians prefer nuanced descriptions of events with an abundance of words and are unhappy with brief generalizations. However this may be, it ignores that fact that people tend to scan websites as opposed to reading them (Petrik 2000). So it is likely that if a visitor is presented with an overwhelming amount of text, they are likely to leave the site without learning anything (except not to go there again). But the beauty of a virtual museum is one can provide a brief caption and lots of images for the causal browser and then through hyperlinks provide detailed information for the exceptionally curious. We also spent a little time with paper and colored pencils to try creating page designs as well as brainstorming for what we thought would make a great site on Death and Dying in Appalachia.

Our other goal for the Death and Dying students was to help guide their research and provide them with ideas about how to present their research online. Although we were not to do the research for them, we had to learn enough about the topics to be able to keep the students on-track and to provide ideas when they reached a brick wall. Once their webpages were complete we were going to bring them together into a cohesive look as well as design the lobby of the museum.

THE MOUNTAIN HERITAGE CENTER

The project has also been built upon collaboration with Mountain Heritage Center.

One point about virtual museums is that they are living documents and can be added to, expanded upon, revised as needed. When I teach the course again, I hope to be able to continue with the project, for example. Also, the Mountain Heritage Center is now planning to build a physical exhibit on death and dying, for which the students might also be helpful. We will also likely be bringing experts for lectures and other

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activities associated with death practices. These can all be associated with the virtual museum, which will be housed at the Mountain Heritage Center's website.

BENEFITS

The project had several clear benefits. First and perhaps foremost, it allowed me to flexibility to match student strengths to the needs of the projects, thus differentiating the work load among a diverse body of students with equally diverse backgrounds and educational goals. It also allowed me to differentiate learning styles, allowing visual learners to work on design, kinetic learners to make movies and visit sites, etc. Students could also choose topics with which they were comfortable and not be confronted with ideas that they might find too upsetting or traumatic.

It also allowed them to construct their own topics and final product from the ground floor. Rather than focusing on the results, such as occurs with a report, we focused on what they learned from the process of creating the exhibits, which I believe is a more valuable skill with useful applications beyond just the one class. It also helped to begin thing beyond the printed page and into the virtual world, while giving them ideas about the potential for the integration of technology into other parts of their life. Because of the requirement that they find original sources, the project also enhanced research skills. Some scanned microfilm for newspaper articles, others did research at local courthouses and historical societies, many conducted interviews and sought out expert opinions.

"A digitally networked world could fulfill Marshall McLuhan's hopeful dream of a global village, with in-depth personal involvement for all. The global village could be a corporate systems monoculture, or it could be an extension of existing human communities in all their vital diversity. The local could be an extension of global uniformity, or the global could be an extension of local diversity." (Teather, 1). This is lofty expression of the goal of the world wide web to promote engagement in what is widely seem an a disengaged world. For our project, many of the activities required students to leave our somewhat isolated campus and work within the community. One group of students made a video of a allegedly haunted site in Asheville (approximately an hour from campus) and for all of them it was their first trip there. Many students made meaningful connections to the local and regional communities, a facet that is often lacking here because the majority of WCU students come from the eastern, not the western, part of the state. Three students decided to follow-up on their projects after the courses ended and to pursue related activities in the context of other courses and activities. Though it is too early to tell, perhaps the presence of the museum in the end will teach someone somewhere a bit more about Appalachian culture. In an age where administrators are crying out for increasing civic engagement, project such as this one represent one possible means to answer that cry.

I can tout these benefits because I see them, and some of the students did as well, but in their evaluations they emphasized the fact that the project was oriented towards the public. To them, it would seem, this transformed a short-term project into one with long-term gains. They could post the site on their resumes, list web site development as

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a skill, and point out their efforts with pride to friends and family. Instead of busy work, one student said, you gave us a real-life project that could make a difference. They also complimented the project as being open-ended. If they came across more information later, they could add to and improve upon what they had already done, as could others. One student commented that it was a project that would not end up in a dusty file cabinet but could remain “out there” for future use.

All in all, the project required a great deal of work on the part of the instructors and the technology representative. It also had its fair share of logistical difficulties. In the end, however, I believe that it was worth it and will continue to be so.

DO's AND DON'T's

Do's and Don't's: Lessons Learned

- DO set technological parameters
- DON'T teach technological skills

- DO structure collaborative efforts
- DON'T encourage collaborative efforts

- DO over-communicate
- DON'T leave it up to them

- DO specify minimums and maximums
- DON'T give them too much room




Figure 7. DO's and DON'T's: Lessons Learned

TECHNOLOGY

I find that one of the trickiest parts of doing technology-based products is that students come in with such a variety of backgrounds that you are doing differential learning at its most extreme, and it can therefore be very time-consuming. I did have the students do storyboards rather than actual web development, but I believe, and course evaluations confirm, that the vehicle taught them more about web development and how to think in a web-based environment versus the traditional printed page. I recommend to others considering such a project not to overreach on your technological base. I also recommend that you not underestimate your student's imaginations. I encouraged them strongly to be creative, and they heeded the call so well that it was very necessary to have my tech guy around to tell them that many of their proposed projects would take years to develop.

Technology can allow students to work outside the box and perhaps do traditional research, but present it in a novel way. Obviously, technology based projects can be used for other courses, but they are well suited to public history. It's not as simple as finding pictures and labeling them as museums, real and virtual, are about informing

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and educating the public. Therefore students must figure out how best to use their research to educate the public while incorporating appropriate images and design elements.

COLLABORATION AND COMMUNICATION

Collaboration is a wonderful thing when it works well. However, when it does not work it can be a disaster. Dr. Cruz and I had this idea, however naïve it seems now, that the students would make contact, work together and create these great web pages. The Death and Dying students would go off and do the research, take photographs and my students would guide them with a firm but gentle hand. However, this did not work out as planned. And in retrospect we should not have been surprised by the inadequate collaboration between our three classes (two sections of Death and Dying and one Public History). We have identified ways in which the collaborative aspect of the project might be improved. Not surprisingly, almost all of options revolve around communication, either with each other, with the students or between the students. Nothing can prevent disaster entirely, but communication can alleviate it.

The biggest problem from my point of view of the public history students is that when they attempted to contact the Death and Dying students via email they were either rebuffed or ignored. The undergraduate students might have felt awkward, not truly understood what my students were up to, or resented the fact that they needed any help in the first place. If my class had been composed entirely of graduated students, perhaps the latter would not have been such a problem. One way to facilitate interaction and communication between the two courses would be to arrange for them to be held at the same time so that class time can easily be used for planning and meeting.

This project was started by the public history students at the end of October and by the Death and Dying Students in early November. This definitely was not early enough, not only because the students have difficulty in identifying appropriated topics and projects, because we, ourselves, got involved with other aspects of our positions at the university and weren't able to communicate effectively with each other about the progress about our respective portions of the web museum. If we had started at the beginning of the semester we would "built in" time for miscommunication and disaster and we and the students would have felt less rushed. Allowing more time and a more leisurely pace (or at least avoiding the end of semester madness) might have permitted better results.

Encouraging collaboration, communication and accountability in the students would also have produced better results. By requiring periodical formative assignments, such as visual designs, "minutes" of group meetings, a written research paper in conjunction with the end product, group presentations of the proposed page to the entire class and student mentors, might have made less motivated students take the project more seriously, avoided 'last-minut-itius', as well as giving us more opportunity to provide guidance. In this same vein, always give more guidance than you think is necessary. Provide the students examples, models, drafts, ideas, check sheets, etc. and them

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require them to turn in completed check sheets and their own versions as formative assignments.

A project such as this must not only be taken seriously by the students. While, Dr. Epperson did take the project seriously, it got buried amongst a host of other assignments for my public history students. By not emphasizing it in my syllabus and by devoting more class time to it, I believe I also diminished its importance for my own students. The caveat "less is more" is appropriate here. Additionally, better collaboration and communication between the students of the two courses would have allowed the Public History students to gain "management skills" and help them to figure out how best to present information to the public.

LIMITS

In an effort to encourage creativity, we adopted a "sky is the limit" model of the skies. In retrospect, this led to some excess. Because this was a new type of project for us and the students, assessment was also an issue. Without really knowing what they were capable of, we did not know what to tell them about our expectations. They wanted to know, for example, how long the project had to be. In web terms, long is relative. Was making a movie worth as much as the standard page? How much weight should be given to creativity vs. effort, vs. research? In the end, we used a simple rubric based on creativity, content, and style, but we think both the students and instructors would have benefited from having more clearly delineated limits expressed up front.

FUTURE POSSIBILITIES

There are a number of new or existing technologies to help instructors create virtual museums and/or to improve upon basic webpage designs.

CHATTERBOXES AND MORE

The *museuVirtual* project is an international collaborative effort to author tools for creating virtual museums for teachers. These include the use of chatterboxes, which are on-line characters that 'speak' and interact with users. The *museuVirtual* tool as a whole is designed to create 3-D virtual environments.

Future Possibilities

- museuVirtual Project: Chatterbots

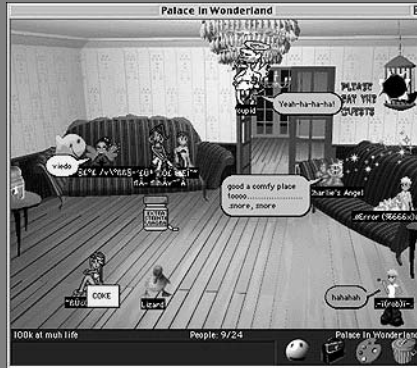


Figure 8. Future Possibilities

PHOTOSTORY

Another promising program for making virtual museums is Microsoft's PhotoStory3. Currently available as a free download, the simple program allows users to take still photographs and turn them into mini-movies, complete with sound or voice-overs. Though not as flexible as full-blown web design, the built-in template and ease of use could allow instructors to place more of the technological responsibilities onto the students while maintaining a uniform look to their site.

Microsoft PhotoStory3



Figure 9. Microsoft PhotoStory3

STUDENT SUGGESTIONS

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The students also had suggestions for revving up the website that was beyond our technological learning curve and/or time constraints. Most of the student groups wanted to do more with interviews and providing point-and-click interview boxes with experts, similar to many of the BBC history websites. We had digital tape recorders but were unable to solve the issue of how to tape telephone or internet-based conversations and provide those in accessible formats. Several were very interested in adding more layered elements, for example, such as question and answer boxes or myth buster functions, where users would click on a question and the answer would be revealed beneath. One group of students developed a very interesting idea for adding virtual crafts, in this case making mourning quilts, so that users could see and interact with craft traditions.

THE FUTURE OF THE FUTURE

As we were writing this article, the Cooper-Hewitt National Design Museum (part of the Smithsonian) announced their plans to put its collections in the hands of virtual curators, who could create exhibits and have them critiqued and reviewed by members of the museum community. Exhibits can be added and removed depending on their reviews. Perhaps in the future students will be able to create virtual museums using the some of the greatest works of art in the world.

CONCLUSION

Penelope Lively once said that "we carry a museum inside our heads." (Bowen, 7). Virtual museum projects can greatly expand the limits of the hallowed halls of traditional museums and traditional classrooms, turning that imagination into reality.

Dr. Epperson would like to thank Anne Collins, Courtney Ryan, Matt McDonough, Holli Star, and Elizabeth Williams from her Introduction to Public History class for their thoughts on this project.

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Using authorPOINT™ Lecturing Software to Improve Administrator Evaluations of Faculty

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ABSTRACT

Most administrators are time-constrained and often pressed to coordinate their schedules with their faculty for required observations of teaching for annual performance reviews. This paper discusses a new software program for distance learning, authorPOINT™ from authorGEN Technologies and describes a procedure for adapting it to the faculty review and evaluation process. Key benefits of the procedure include asynchronous scheduling of faculty and administrator observation of teaching, a permanent record for both faculty and administrator of the event being reviewed, better control by the faculty of the selection of the event to be reviewed, and increased opportunity to review and discuss the event prior to the submission of a written evaluation of the faculty.

OVERVIEW

Among the problems noted with administrative evaluation of faculty instruction is the amount of time needed for a valid and constructive observation and review to take place. On the one hand, university administrators such as departmental Chairs, are often time pressed and find it difficult to schedule synchronous visits among their faculty for in-class review. On the other hand, faculty often spend more time preparing lectures than it takes to actually deliver them in class. Accordingly, faculty see the lecture as a primary demonstration of their training as adapted to the needs of the learning situation.

Many schools employ administrators, such as a Chair, to observe faculty in lecture as part of one or more tools for faculty evaluation. Other tools might include review by peer or senior faculty in area, use of student evaluations of teaching, and scholarly publications by the faculty on teaching innovations, outcomes, issues and/or concerns.

There are many problems associated with other forms of faculty instruction evaluation, such as student rating forms. According to Anastasi & Urbina (1997) student rating forms have two major weaknesses: the "error of central tendency" and the "halo effect." The error of central tendency happens mainly due to human nature. People have the tendency to let their ratings accumulate in the center of the scale rather than reaching the extremes. The halo effect happens when the evaluator's ratings are wrongly (positive or negative) influenced by a favorable or unfavorable general opinion of the instructor. Another issue raised by Cashin (1989) relates to reviewer competency in that "students are not qualified to judge a number of other factors that characterize exemplary instruction: 1) The appropriateness of the instructors objectives; 2) The relevance of assignments or readings; 3) The degree to which subject matter content was balanced and up-to-date; and 4) The degree to which grading standards were

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unduly lax or severe." Additionally, Germain and Scandura (2005) note that student evaluations of faculty teaching are biased as a function expected grade inflation.

Similarly, peer evaluations may suffer from a lack of rigor if the process is seen as one of reciprocity whereby peers exchange high evaluations with one another. Scholarly publications, especially if they are blind-reviewed may validate much of the work a faculty member does in bringing added value to the learning environment, but the long time frame between research, writing, and publication may deny the faculty member timely feedback for a given course or semester that might be useful in improving faculty performance in the short run. Accordingly, administrator evaluation of faculty lectures has the potential of being a valuable development tool as well as an evaluation one.

Given this potential, it is surprising how little published work there is on the role of administrator evaluation of university faculty lectures. For example, much of the work on assessment relates to the evaluation of undergraduate teacher trainees being supervised by university faculty. For instance, Gimbert and Nolan (2003) suggest that the role expectations between faculty supervisors and undergraduate teaching candidates can be positively influenced by changing the designation of the supervisor's role from evaluator to professional development associate. Ebmeier (2003) identifies that teacher efficacy and commitment are positively related to the importance their supervisor attaches to their specific instructional activities. Similarly, Kilbourn et al. (2005) note that novice supervisors can more readily improve their feedback to teachers by adopting an attitude of inquiry to the teaching observation event versus a strictly evaluative perspective.

If much of the literature addresses the evaluation of undergraduates training to be teachers rather than the evaluation of university faculty, some studies indicate feedback from professionals can have a positive developmental impact on other professionals. For example, Maker, Curtis and Donnelly (2004) note that specific feedback on key behaviors from resident physicians to their attending faculty mentors helped the attending physicians improve their performance on subsequent measures of the same key behaviors. Such an approach is consistent with Glanz's (2005) suggestion that action research be used as a model for supervision as a means of helping specify what specific activities of instruction can lead to better student outcomes.

To translate the potential benefit of administrator feedback to the benefit of university faculty, ideal conditions must exist that allow the faculty member to choose the best possible demonstration for the administrator to review. Similarly, the administrator should have adequate time to consider and reflect upon the lecture under review to provide the faculty member with the most valuable feedback and evaluation. These conditions are difficult at best to create in the real-time moment of the traditional simultaneous event of one time observation and notation for evaluation that characterizes most administrator evaluations of faculty teaching. We suggest that the authorPOINT software reviewed here may offer an IT solution to this problem.

THE authorPOINT™ LECTURING SOFTWARE

The authorPOINT™ software is designed to capture audio/video with PowerPoint presentations while they are delivered. With authorPOINT™, faculty can capture their

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presentations in three mouse clicks and turn them into rich, meaningful outputs in moments (www.authorgen.com). The results are then distributed to the audience in Windows Media, Real Media and Pocket PC formats.

authorPOINT™ is a PowerPoint plug in and works inside of PowerPoint. The software requirements to record are Windows 2000 or greater and PowerPoint 2000 or greater. In practice though, we recommend Windows XP and the accompanying versions of Office, as some of the tutorials require XP level products.

The authorPOINT™ software as a PowerPoint plug in allows the user to access the authorPOINT™ features from the familiar PowerPoint interface. Essentially, it provides an easy to navigate, intuitively organized shell for displaying PowerPoint slides with other media and saving the customized organization for easy to use access later.

The authorGEN website has a page featuring several topics in a tutorial. Each tutorial opens in a new window and consists of a self-running, narrated, animated explanation of that topics features and how to navigate the authorPOINT™ software to create dynamic lecture presentations. The tutorial page also has tips for lighting your presentation to get the best video output possible.

One strength of the authorPOINT™ interface is its modular approach to lecture design. For example, the authorPOINT™ software allows the user incorporate pre-recorded media into a lecture presentation. Audio and/or video files can be imported into a new or existing lecture file in PowerPoint. This feature allows professors to leverage historical data in new ways or to re-format historical data into new formats. For example, an existing 30 minute video recorded on tape might be digitized into several short, specific illustrations and then imported into an existing PowerPoint lecture on a case by case basis. For our work though, the authorPOINT™ software was used to capture a real time lecture delivered before a traditional lecture class and then make that lecture available for administrator review of the faculty member as part of a required observation for an annual review. However, the same feature might be used to distribute lectures from traditional classes to online students. One advantage of this feature is the ability to simultaneously service both traditional and online sections: Faculty need not teach both sections separately and thereby lose any economies of scale.

The authorPOINT™ software has several useful features, including the ability to capture live video and to annotate slides used in lecture. The software additionally allows for capture to output to be made available in multiple bit rates for access from the Internet consistent with the end-users connection settings. This feature expands the functionality of the software because distance learners need not be limited to locations with high-band width connections only.

Distribution of the authorPOINT™ output can be made over the web, either through the included authorSTREAM™ feature (not reviewed here) or via any FTP Server used by a host school.

The software also allows you to create a pass code to access the presentation. This feature allows you to restrict content to authorized users, such as students enrolled in your course. Finally, the output can be written to either a CD or a DVD for either distribution or archiving purposes.

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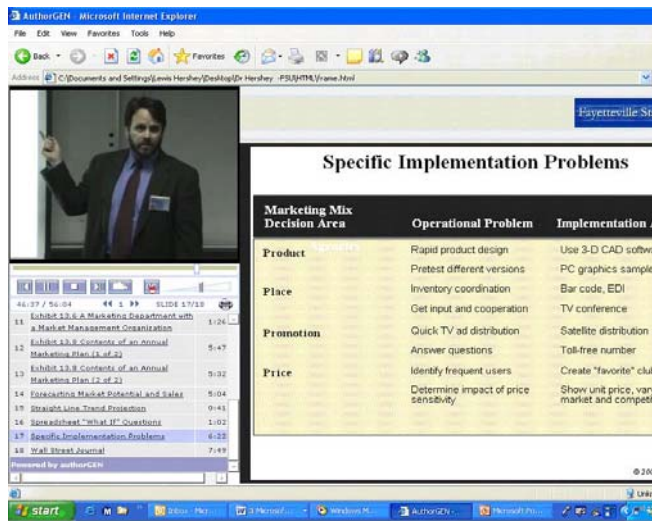


Figure 1. The authorPOINT™ Output Interface.

ADAPTING authorPOINT™ FOR FACULTY EVALUATION PURPOSES

A particularly attractive aspect of using the authorPOINT™ software for faculty evaluation purposes is that it requires no additional training on the part of faculty already using the software for distance education initiatives.

If a school is not using the authorPOINT™ software currently, then purchase of a license and the purchase new IT equipment may be in order. For purposes of the demonstration lecture described here (and shown on screen in conference presentation), the entire lecture was captured with a digital camcorder and a clip-on wireless microphone. A student volunteer agreed to operate the camera to follow the lecturing faculty member for this demonstration. In practice, the school might need to provide such assistance or restrict faculty lecture to podium only presentation with a motionless camera recording.

We might point out the possibility of faculty preparing grant proposals for funding new ventures into the use of the authorPOINT™ software. If so, the faculty member might cost out the expenses of acquiring and implementing the package in total for developing an entire course. Under these circumstances, the proposal might include cost of license, digital camcorder, extra memory sticks (1 GB sticks recommended), a tripod, a wireless clip-on microphone, transmitter and receiver, additional lighting (if needed), and any funding for research associates to help with the recording (if needed).

IMPLICATIONS FOR ADMINISTRATOR ANNUAL FACULTY EVALUATIONS

Administration is a labor intensive process and faculty evaluations by Chairs or Deans is a classic example of the difficulties facing time-constrained administrators. The authorPOINT™ software reviewed here was created for distance learning environments but can be adapted to the needs of faculty assessment through a procedure that enhances the assessment process. For the administrator, use of authorPOINT™ over sitting in a live classroom allows for a better, more robust review of the faculty's

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lecture. For the faculty, use of authorPOINT™ allows for a selection among many possible lectures for review, without the necessity of being “really on” on the single day of an in-class visit. Together, these advantages can be leveraged to the benefit of both administrators and faculty by focusing on three key strengths of the authorPOINT™ interface: permanent record, asynchronous scheduling, and faculty control of the lecture selected for evaluation. Each of these strengths is described below.

PERMANENT OBJECTIVE RECORD

A key advantage of authorPOINT™ is that it creates a permanent record of the faculty lecture that is used for evaluation purposes. Once generated, this record may be paused, reviewed, replayed and accessed to specific moments to allow contemplation and consideration of how the faculty member has done. Because the faculty review is done from the digital record and not from the flow-chart notes taken in the ephemeral moment of delivery, the reviewer can get a more complete and better record of the faculty lecture. Bamberger et al. (2004) note the difficulty obtaining valid and reliable data for evaluation under time constraints, among other factors. Use of authorPOINT helps alleviate this problem. Moreover, both the faculty member and the reviewer can discuss specific aspects of the lecture both visually and aurally after the fact – something heretofore not possible for the faculty member who delivered the lecture. This aspect of the authorPOINT™ software also has implications for faculty development as well as evaluation, though development issues are beyond the scope of this paper. Still, the creation of a valid, reliable record of reference for both faculty and reviewer of the lecture being evaluated enhances to potential for accuracy and limits reliance on less complete methods of generating data for the evaluation.

ASYNCHRONOUS SCHEDULING

Another key advantage of the authorPOINT™ software is the ability to free faculty and reviewer from having to schedule a time convenient to both parties to “attend” the lecture. For the faculty, this reduces one source of possible adverse performance bias by eliminating the dynamic of a reviewer from the social context of the live classroom. For the reviewer, the possible benefit is even greater. Most administrators involved in assessment of faculty lecturing need to assess several faculty members over the course of the semester or year. Eliminating the need to schedule multiple visits across diverse faculty teaching times, days, and even locations frees up considerable time. This savings is compounded when other logistics are considered, such as travel and re-scheduling of other administration functions. Further, the reviewer will presumably choose to view the lecture at a time convenient to the reviewer’s schedule to do so. This creates the possibility for better attention to the task of evaluation by allowing the reviewer to reduce other noise factors in the channel of communication. A quiet office, clear of other administration duties, absent of single-event social interactions created by the presence of the reviewer in the lecture allows the reviewer more focus and concentration on the task of evaluation.

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FACULTY-CONTROL OF SELECTED LECTURE PERFORMANCE FOR EVALUATION

Finally, a third benefit of the authorPOINT™ software is that the faculty member has the opportunity to exert more precise control over the quality of the lecture reviewed for evaluation. Live review for evaluation might be scheduled for weeks in advance but suffer on the “reckoning” day due to changes in student attendances, illness by faculty, reviewer or both, or other external problems, such as IT failures in lecture presentation or Internet access. On the simplest level, a faculty member has the opportunity to preview a lecture intended for review authorPOINT™ and simply not submit it if the faculty member believes it is not typical of her or his best work. Alternatively, the faculty member might schedule several recordings in advance, with the intention of choosing the best lecture for evaluation to present to the reviewer. In-class, live evaluation of lecture must rely on serendipity, to some degree, to show the faculty lecture at its best. With the authorPOINT™ software, faculty can exert more control over the quality of what the reviewer is asked to evaluate.

LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

We have based our observations made in this paper on our own experiences with the authorPOINT™ software and so must necessarily point out the limitations of that perspective. First, our use of the authorPOINT™ software is only just emerging from its beta phase and lacks widespread diffusion across the faculty. It might be that the authorPOINT™ software is more appropriate for some content areas than others and only a wider diffusion of innovation across the university curriculum will tell us. Second, while the authorPOINT™ software may help reduce unwanted bias based upon the artificial presence of a one-time evaluator in the lecture, it is also the case that the technology for creating the authorPOINT™ lecture, especially the camera, may distract some faculty. Training and assimilation of the technology may be required for both faculty and students so that the presence of the authorPOINT™ platform is familiar and comfortable before whole scale use of the authorPOINT™ software is adopted in lieu of in-class visits. Finally, faculty, reviewers and schools as a whole may wish to experiment with a wider range of IT products before standardizing on a single platform. For example, the makers of the authorPOINT™ software also offer a synchronous distance lecturing product, authorLIVE. While we have noted the strengths of asynchronous “meeting” of the faculty and the reviewer, it may be that each school has something of a unique approach to faculty evaluation such that these and other products might be used instead of or in compliment to one another.

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Using QuickTime tools to develop an accessible course

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We have created a distance education course utilizing text-linked images to provide visual learners with a rich, web-based learning experience. A combination of photographs, diagrams, and videos are presented in pop-up windows when links in an associated outline are selected. Each visual aid is accompanied by an audio narrative that can be replaced with scrolling text by clicking on a button. The audio, scrolling text, and button are a single QuickTime movie. Embedding the movie beneath its associated image on a web page completes a pop-up learning object. We have utilized templates to facilitate production of large numbers of pop-ups. After we have written and recorded scripts for each image, students can rapidly and efficiently assemble the audio/text into a movie and construct the pop-up pages. This type of learning object provides all students with more options for controlling their learning environment and accommodates students with visual or auditory impairment. Examples of pages with these features may be viewed at:

http://courses.ncsu.edu/zo495x/common/zo155_site/UNC_templates/a_warning.html
and

http://courses.ncsu.edu/zo495x/common/zo155_site/UNC_templates/aquatic_mammal.html

The above pages can be utilized as templates, but the "templates" that we actually use can be viewed and downloaded at:

http://courses.ncsu.edu/zo495x/common/zo155_site/UNC_templates/movie_template.html and

http://courses.ncsu.edu/zo495x/common/zo155_site/UNC_templates/page_template.html When we use these "pop-up" pages in our course website, they are linked to text on a topic page and set to pop-up at a designated size of 400 x 380 pixels.

The movie template is a QT movie containing a title, soundtrack, scrolling text, and "T" image (sprite track) that toggles between sound and text. To use this template, you must open the movie in a QuickTime editor. Adobe GoLive (~\$99 with educational discount) contains an excellent QT editor and will be described below. An alternative is LiveStage which is even better, but more expensive (~\$350 with educational discount). You will need an audio file (preferably compressed), and a script written in any text format. Using GoLive, proceed as follows:

1. Open the movie in GoLive and access the timeline window (icon in strip below menu bar).
2. Click on the sound track and change the link to the desired audio file.
3. Set yellow bar to the length of the new sound track, then make all tracks the same length (easiest way is to select all tracks, then click on the duration clock in the inspector window).
4. Expand the text track by clicking on the triangle next to it, then double click on the text sample. If "text" is selected in the inspector window, you will see a place to put text. Copy your script from any text file, paste in into the designated space and click

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apply.

5. Expand text track 2 and type in your title for the image.

6. Save the movie under a new name.

Note: If you prefer that the both text and audio be present at the same time, click on the "eye" icon next to the text track and the scrolling text will be visible as the audio plays. You should also delete the sprite track if using this option.

The page template is simple html, so you can open it in any html editor. Just change the image and the QT movie file names to those of your image and movie. We give the page, image, and movie the same name (with different extensions) to keep things organized. When uploading the new page to a website, these are the only files needed.

Questions may be directed to Betty Black at betty_black@ncsu.edu.

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Reaching students beyond the classroom with a podcast

Michael Rappa, North Carolina State University

Podcasting became one of 2005's biggest news stories with a dramatic surge in the number of people—from ordinary teenagers to celebrities and CEO's—who are taking up the microphone and putting anything and everything they have to say on the Internet. Now university professors are entering the fray, bringing their classroom lectures to the world with podcasts. In August 2005, I became one of those professors to join the trend and podcast my course, "Managing the Digital Enterprise." It is a survey of the opportunities and challenges managers face in an increasingly digital world, and given the subject matter a logical vehicle to experiment with podcasting. The course website is open and free to the public and has a global audience of more than 30,000 each month.

In the talk that follows, I reflect on my experience and address some of the common questions I am asked about academic podcasting.

WHAT EXACTLY IS A PODCAST?

In the simplest possible terms, a podcast is an audio file (or, more accurately, a series of audio files) distributed over the Internet by syndication, usually in the MP3 format.

HOW ARE PODCASTS DIFFERENT FROM THE KIND OF AUDIO STREAMING WE HAVE HEARD BEFORE?

Audio streaming has been on the Internet for quiet some time. What makes a podcast new and different is the way the audio files are distributed. Podcasting uses a method of Web syndication called RSS that enables listeners to subscribe to a particular podcast "feed" using software applications called RSS readers. By doing so, the listener will automatically receive each new episode in the series upon its release. The audio files are downloaded to the subscriber's computer (or other devices) in the background. The result is to give people more freedom and control over what they listen to. It is like having one's own personalized radio: when you turn it on, you hear only those broadcasts *you* want to hear, when *you* want to hear them. The key to this is syndicated distribution.

WHY IS IT CALLED "PODCASTING"? DO I NEED AN iPod TO LISTEN?

No, the listener does not need an iPod to listen to a podcast. The iPod just makes it easier and conveniently portable to listen offline. I am not entirely sure how it came to be called podcasting, but it was one of those fortuitous events when two phenomena came together at just the right moment. The name stuck. For its part, Apple Computer has become a major promoter in the distribution of podcasts via its iTunes Music Store. The iTunes software application, which one can download for free on Mac and Windows computers, is a great way to subscribe to RSS feeds.

CAN ANYONE CREATE A PODCAST?

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Yes, just about anyone with a computer, a microphone, basic audio software and file space on the Web that enables RSS syndication can create a podcast. It's really not that difficult. It will certainly get easier and easier as sites on the Web expand to offer basic podcast services.

HOW IS YOUR PODCAST PRODUCE?

I create my podcast using an Apple Macintosh Mini and GarageBand, a software application that comes bundled with the Mac OS. That, and an inexpensive microphone, is all you need. I produce and edit each episode myself. The podcast is distributed by the Open Courseware Laboratory, which I run at NC State. We use a free open source blogging platform called Wordpress to syndicate the feed.

The technical part is straightforward. What is more difficult is creating audio content that listeners will enjoy or, in my case, learn from. Making a podcast can be a humbling experience. There is much more I can do to improve on that front. It is not as simple as just recording lectures.

WHAT MADE YOU DECIDE TO USE A PODCAST IN YOUR OWN COURSE?

Last year I began to offer my course by distance education for the first time. Instead of videotaping the classroom lectures, which is typically what is done, I wanted a way to engage students at a distance in a more intimate dialogue—a personal conversation. I was looking to experiment with something new and podcasting was the perfect opportunity. Compared to video, it is far less expensive to produce and easier to edit a podcast. Therefore, I could have more creative control over what to produce and when. Students also have an easier time accessing audio content over the Web. The end result was something that both campus and distance students could benefit from hearing.

HOW IS WHAT YOU ARE DOING WITH PODCASTING DIFFERENT FROM OTHER FACULTY?

The academic community is early in the process, and so as you might expect there is a lot of experimentation. Most of what is happening right now is professors who are audio taping their classroom lectures. Frankly, I think that approach has its limitations. The typical classroom lecture is not read from a well-prepared script. In my classroom there is a discussion that takes place with students, there are presentation slides and visual cues. An interactive class discussion is hard to record well and may not be very compelling to the audience listening to a podcast. Therefore, my approach has been to create 30-minute conversations done more in the style of talk radio (currently there are 25 episodes). Some faculty podcasters have gone so far as to hold interviews, sometimes over the phone, with informative guests. That is an interesting approach, too.

WHAT DO STUDENTS THINK ABOUT HAVING A PODCAST FROM THEIR INSTRUCTOR?

They like the convenience of it. The podcast is useful as a supplement to the

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classroom lecture, since it is more condensed. When campus-based students miss class for some reason, they know they can listen to the podcast and not fall behind. A good number of my students have full-time jobs. Inevitably, they are away from town on business some days during the semester. The podcast helps them stay connected and on top of things. This is all new, so perhaps it is too early to make a judgment; but I think students may take to podcasting sooner than we might imagine. They may come to expect podcasts as a regular feature of the educational experience.

IS THERE A DOWNSIDE TO THIS TREND? WILL STUDENTS STOP COMING TO CLASS?

People asked me the same question years ago when I started my course website. One usually thinks that the more content faculty put on the Web, the less of a need there is for students to go to class. That has not been my experience. The Web is not an ideal replacement for the classroom, or face-to-face interaction. For me, using the Web as a supplement for content distribution and for interaction has made the classroom discussion more focused and productive. A great podcast, like an engaging website, can increase class attendance by sparking student interest to learn more about the subject matter. Like any new technology, I am sure there will be unanticipated consequences; but for me, it has been a positive experience.

DO YOU THINK PODCASTING WILL CATCH ON IN ACADEMIC CIRCLES?

Yes, most definitely. You can see it happening already. The higher education section of the iTunes Music Store lists 860 podcasts and is growing. It is a real potpourri of material, of course. One cannot possibly cover it all. But I have listened to some pretty interesting podcasts and have learned from them. And it is not just about courses. Universities have found all kinds of opportunities for podcasting, from student recruiting to staff development. Stanford University has their own section of iTunes, called "Stanford on iTunes", where the university already provides a few hundred audio tracks free to the public. There are faculty lectures with wide ranging topics like "Why do baseballs have stitches?" and "Proving the existence of God." There are commencement speeches, music and sporting events. So what you see in this example is one university moving aggressively to podcast compelling audio content to an audience beyond the campus walls.

SHOULD SOME PROFESSORS BE WORRIED, IF THEY DON'T JUMP ON THE BANDWAGON?

Well, I think we all have to be serious about keeping up with technology and, to the extent possible, leverage it productively in our teaching. Universities are large and diverse institutions. Different courses present different kinds of challenges to instructors. Podcasting will be a great opportunity for some, but not everyone who teaches will necessarily find a need. Where we will be in 5 or 10 years time is hard to say. I started my first course website a decade ago. Today, professors use websites as a standard feature of their courses in growing numbers. Students expect to see it. But, honestly, it has been a long time coming. Clearly, for doctoral students and those just

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starting-out in the profession, podcasting will have a big impact on their careers as teachers.

YOU HAVE WRITTEN EXTENSIVELY ABOUT WEB BUSINESS MODELS. DOES PODCASTING HAVE A BUSINESS MODEL?

Today, podcasts are distributed freely in most cases. But the very nature of syndication opens the door to the possibility of a subscription model, where subscribers pay a fee in order to receive a podcast. Or, one could just as easily see the à la carte retail model, where users pay for each episode just like with the 99-cents per song approach Apple pioneered with music downloads. I have also seen the advertising model emerge in places, especially among the large media outlets. The podcast comes with a short paid advertisement at the beginning of each episode. For many businesses though, podcasting will be one element of many used to accomplish a larger goal, and not a business in itself.

CAN ANYONE LISTEN TO YOUR PODCAST?

Yes they can. Like everything else on my website, DigitalEnterprise.org, the podcast is openly accessible and free to the public. There are also audio transcripts for the hearing-impaired. The podcast is syndicated on the Apple iTunes Music Store, so you can easily find it there to subscribe.

I RECENTLY SAW SOMEWHERE THE MENTION OF "VODCASTING": IS THAT NEXT? WHAT CAN WE LOOK FORWARD TO IN THE FUTURE?

Like audio, video can be distributed by syndication on the Web. Some call this "vodcasting". I have offered video guest lectures as part of my course for about six years. So, again, it is something we should expect to see emerge because syndication is an appealing form of distribution. But Internet connection speed remains an obstacle to video for a large segment of off-campus users. That is changing, but we are not there yet, especially with a global audience. Video is also expensive. It requires a recording studio, a professional staff for production and editing, and it is more costly to serve video content on the Web.

Maybe what is most interesting, in the near term, is exactly the kind of approach Stanford has taken. Almost everyday on a campus somewhere there is a great lecture being delivered: a world renown scholar talking about a beloved subject he or she knows better than anyone else (or maybe a famous writer, artist, executive or statesman). What better thing is there to do than to share that talk with a larger audience beyond the lecture hall, archive great lectures, and make them available to future students. In this way our voices will be able to continue to pass on knowledge from generation to generation, and it can be done today with a podcast.

Michael Rappa is the Alan T. Dickson Distinguished University Professor of Technology Management at North Carolina State University. You can find his course and podcast on the Web at DigitalEnterprise.org.