ANALYZING A GRADUATE LEVEL TECHNOLOGY COURSE

ABOUT Course XYZ

The increasing trend toward technology-enhanced teaching in the K-12 schools is dramatically changing the face of public education in the country. With technology playing a larger role in the lives of both teachers and their students, it is becoming more important for teachers to become competent users of technology.

Purpose of *XYZ* was to introduce future and current teachers to instructional technology tools and prepare teachers to become skilled users of instructional technology. The course was composed of a number of hands-on technology workshops on web design, WebQuests, newsletter/desktop publishing, advanced uses of PowerPoint (such as creating Jeopardy or other informal assessment tools that uses PowerPoint features including graphics, links, animations and transitions), graphic organizers and instructional software such as Inspiration/Kidspiration and stressed active learning through in-class use of instructional technology.

Out of 15 students who registered for this course, 8 students were from the Second Language Education program and 3 students were from the Educational Leadership. The other programs represented in class were the Reading Education, Teacher Education and Professional Development and Minority and Urban Education programs. Most of the students (8 out of 15) in class were practicing teachers.

As a final product, students designed an electronic portfolio that demonstrates technology competencies based on Maryland Teacher Technology Standards.

STUDENT ASSESSMENT

In this course student assessment was done formally and informally in a variety of ways. There were 6 major projects to be completed throughout the semester. After each hands-on workshop presented, in-class time was given to complete the projects. This allowed for much-needed guidance, and also allowed students who were unsure about the new skills they learned to get help from me and their peers.

Formal student assessment was done in several ways. Again, there were 6 graded activities: Multimedia PowerPoint Project, WebQuest, Newsletter/Desktop Publishing, Journal Abstract, Professional Development Opportunities and Technology Resources Report and electronic portfolios. The journal abstract assignment was only required for doctoral students. For master's students, it was an optional assignment for receiving extra credit.

Except for the journal abstract assignment, all of the items evaluated the students' knowledge and ability to explain and apply what they have learned. The electronic portfolio project was the most important and the most challenging assignment because it

required students to compile all their work into a portfolio. For each project, students were given a rubric before they began the project that specified the requirements.

Towards the end of the semester I created an Excel database to store information about my students' assignments. The data stored includes the name, degree, age group, teaching status, gender, race, learning style and grades of participants in this class. I used this database to keep track of student progress. I also used that information in determining assignments, teaching strategies and groupings. Using the filtering function, I was able to see which students were struggling with which assignments. For instance, it was after I started using this database that I realized in-service teachers had more problems with submitting their assignments on time than pre-service teachers. Also, as seen in Table 1, the only students who received a B in this class were in-service teachers. Moreover, average pre-service teacher was more successful than an average in-service teacher. (Please see the database.) I constantly offered helped to these students but some said that they knew what they were supposed to do but just didn't have the time to sit down and complete the project. All of my in-service teachers were full time teachers and they had less time to work on their projects than the full time students had.

Count of Letter Grade	Letter Grade				
In-Service/Pre-service	A	A+	B	(blank)	Grand Total
In	1	5	3		9
Pre	3	3			6
(blank)					
Grand Total	4	8	3		15

Table 1

I still don't know what I can do about this problem because while some in-service teachers were complaining about the workload and amount of information in this course, my pre-service teachers were asking for more. I am not sure this course can be offered just for in-service or just for pre-service teachers.

I also looked at data to see if there was any correlation between age and achievement in this class. I assumed three age groups (Group A: 20< <30, Group B: 30< <40 and Group C: >40) and grouped students into these three age groups. Interestingly enough, group C students who were older than the students in other age groups were quite successful in this class. However, they needed more guidance and help from me and their peers than any student in groups A and B. Also, they indicated that they constantly got help from people at home such as their kids or their spouses.

Count of Final Grade	Letter Grade				
Age Group	A	A+	B	(blank)	Grand Total
A	2	4	1		7

B	1	3	2	6
C	1	1		2
(blank)				
Grand Total	4	8	3	15

Table 2

I also conducted Style Analysis Survey (SAS) in my class to find out student learning styles. SAS is created by Rebecca Oxford and is a test that checks your style of learning and working. Using Excel, I converted this survey into an electronic one and asked students to take E-SAS and post their results on WebCT. Survey results revealed that majority of the students were visuals learners. Interestingly, those who achieved highest scores were visual learners. (See Table 3) As a visual learner myself, I wonder if I tend to teach only in a visually stimulating way. This is something I need to keep in mind next time I teach this course.

Count of Learning Style	Letter Grade				
Learning Style	A	A+	B	(blank)	Grand Total
A				1	1
A T	1				1
NA				1	1
V	3	7			10
V A		1			1
VAH				1	1
(blank)					
Grand Total	4	8	3		15

Table 3

COURSE EVALUATION

Improvement in a course will occur continuously over time. The key to improvement and better quality is evaluation. Evaluation is the purposeful gathering and analysis of data to make a judgment on the results or value of some activity. Evaluation requires time and resources, but is essential to improvement.

Although I spent a great deal of time designing this course, I was very well aware of the fact that I needed to modify the course throughout the semester based on student feedback. It was the first time I was teaching this particular course so I wasn't entirely sure how the course was going to go.

In designing this course, I developed a series of practical workshops that provide first-hand knowledge of and tools for developing technology proficiency. I offered these workshops several times in the College of Education as well as at a couple of national

and local conferences. I modified the workshops based on the feedback I would receive at the end of the workshops.

In this report, I attempted to evaluate my course so that I can improve the teaching quality and maintain high standards for this class.

Formative Evaluation (Journal Entries)

Student feedback was collected through journal entries throughout the semester and this information was used to shape the course as the semester unfolded. Since students were at different technology proficiency levels, finding the right pace for the class activities and workshops was initially a challenge.

Journal entries opened opportunities for course evaluation, self-evaluation, and personal reflection, all of which I had hoped to encourage. Weekly journals kept students actively involved in class material and channeled their voices. I could hear how each student understood what they were learning. I could give them individual feedback. And though some were not as enthusiastic about keeping a journal as some other students, I did receive thoughtful and insightful writings from most of the students every week.

Based on my students' feedback I made the following changes in my course.

1. As students worked on their projects, they had a number of questions that they did not know the answer to or may want to know more about. I answered these questions. However three of my students indicated that they understood what I said in class but had a hard time remembering the tips we discussed. In her dialogue journal one student wrote "*It is disconcerting to see how much I don't know and will have to learn. There are so many little things as well as big things, and I have no memory for what I don't write down. It is impossible to take notes on everything, so I will forget a lot.*" After receiving this feedback, I created a "Tips" page where students would find detailed answers to the questions raised in class. Since most of the students were visual learners, I made sure that I had visuals that that aided the content in getting the message across.

2. Almost all of my workshop presentations were PowerPoint presentations. I would print my PowerPoint in handout form (6 slides per page) and make copies for students. Two of my students suggested that I print the slide view with 1 slide per page because it was hard to see the *Screen Shot* images and read the directions when there were 6 slides per page. All the students said that handouts with 1 slide per page were much easier to follow after I began creating more user-friendly handouts.

3. Next time I teach this course, I will start the "open labs" earlier. I will also present the assistive technology workshop earlier.

Summative Evaluation:

Summative evaluation usually occurs after the activity has end and is used to make judgments about its success or otherwise.
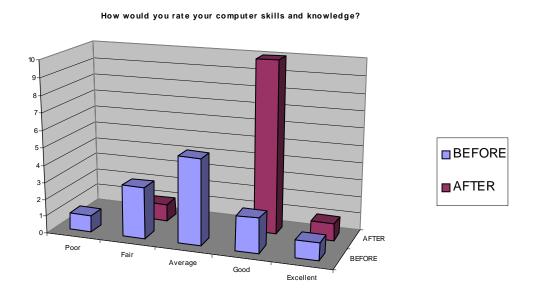
Initially I decided what aspect of the course to evaluate and then I designed an end of the semester survey to determine what worked and what didn't and which components of the course was more helpful to my students. The end of the semester course evaluation survey had both quantitative (close-ended) and qualitative items (open-ended questions). Out of 15 students, 12 students responded to the survey. Students were told that they could put their names on the survey if they wish to but most of the students (8 out of 12) preferred to remain anonymous.

The procedure:

Before giving the survey, I gave information to the students about the purpose of the survey, how long it would take and by taking this survey how they can help me improve this course. On the completion of the survey, the data was evaluated. The following tables were created.

COMPUTER SKILLS AND KNOWLEDGE

Students were asked to rate their computer skills and knowledge before and after they took this class.

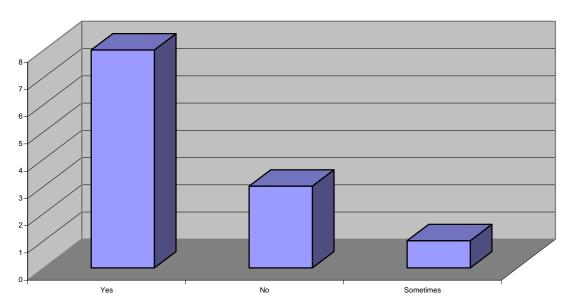How would you rate your computer skills and knowledge?

As seen in Table 1, students who rated their computer skills "fair" (3) and "average" (5), rated their computer skills "good" after taking this course.

When asked whether the hands-on workshops were helpful or not, all of the students indicated that they were very helpful. However, students who had advanced computer skills said that the handouts were very detailed. On the other had, students who had limited computer skills indicated that they would have benefited from more detailed handouts.

PAIR-SHARE ACTIVITIES

Throughout the semester, students were asked to share their work (multimedia PowerPoint projects, newsletters, electronic portfolios, etc.) with their peers. The purpose of this input exercise was to encourage students to share their work and receive constructive feedback on their work. A checklist was given to each student to evaluate his/her peer's work. As seen in Table 2, 75% of the students found this activity helpful.

Did you find the PAIR-SHARE activities helpful?

WEBCT

As expected, all of students indicated that they enjoyed use of WebCT in this course. However using WebCT was somewhat harder for some than for the others. Here are some of the comments in response to what students liked/disliked about using WebCT.

Some comments:

"Struggled initially to get in. Liked access to instructor/other students.
"We couldn't remove a posting if we made a mistake"
"I loved posting occasional weekly homework assignments on WebCT. I found it helpful to see what feedback others had received from the teacher."
"It is a great way to keep up with what is going on in the class"
*"I **really** liked the use of WebCT to have access to course materials."*

ONLINE COURSE WEBSITE

In addition to WebCT, I have designed a course website to accompany the content of this course. In designing this course website, I have strived to create clear, simple, user friendly web pages in order to provide students easy access to course materials

Below is some information about each page I had on my course website:
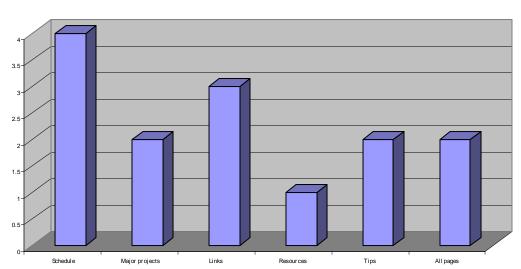
Weekly Schedule page: This page would provide the weekly schedule and information about the content that was scheduled to be covered each week.

Major Projects page: This page provided the details of each project as well as the rubrics to be used to determine successful attainment of academic learning expectations.

Links page: At the beginning of the semester, some students indicated that they had a hard time typing the URLs of the pages we visit each week. I created the links page to make it easy for the students to navigate on the Internet. Rather than typing the URL to find the resource on the Internet, they just open the "Links"page and then use the links to the pages that we used in class.

Technology Tips page: As I mentioned above, some students had a hard time remembering the tips we discussed in class. Therefore, I created a "Tips" page that I updated every week after each class. On this page, students would find detailed answers to the questions raised in class. For instance, on this page there is information about converting an MS Word file into a PDF file, switching windows easily by using alt-tab hotkey, etc.
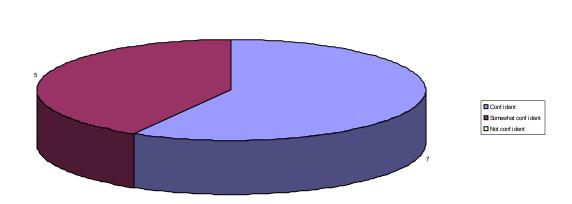
Resources page: This page is a collection of links and resources for teachers.

Which online course page did you BENEFIT THE MOST from?

When asked which online course page was the most useful, most of the students ranked the online schedule page the most beneficial. However survey results showed that having an online course website to accompany the content of the course was very beneficial. *"I loved using all these pages. It was helpful that there was so much info available about how to complete the assignments. I used all of the pages almost equally,"* one student said.

Students also indicated that they felt confident about using the skills (i.e., creating WebPages using FrontPage, creating tutorials, newsletters, etc.) they learned in this class. Some of them said that they would feel more confident with more experience using the skills they learned.

How CONFIDENT do you feel about using the skills you learned in this class?

FINAL REFLECTIONS

Reflecting on what my goals were for this class and what I was able to achieve was very helpful. I truly believe that teachers can really learn from students, especially those whose voices they don't want to hear. Therefore, I designed an end of the semester course evaluation survey. Through this survey, I attempted to find out what understanding, knowledge, and skill my students acquired in my class. I also wanted to find out student suggestions as to what I should do differently next time I teach this class. I received some constructive feedback that I hope to put to use.

I really enjoyed looking at my course data and analyzing it. Although nothing strikes me as particularly interesting, I found the activity quite useful. I also know that I need to look at my data again next time I teach this course to see if there are any similarities at all.