Teaching Tip
Using a Wiki to Collaborate on a Study Guide

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ABSTRACT

This paper introduces an end-of-semester assignment to create a study guide for the final exam. This assignment helps with two objectives of an introductory Management Information Systems course: collaboration and using Web 2.0 technologies. We argue that to truly understand collaboration, students must learn more than what collaboration is, they must see it work on a task that is meaningful to the student. The exercise provides a meaningful task that cannot be done by a single student; however, it can be done effectively by many students working together. As they work on the task, they are using a Web 2.0 technology, the wiki. They finish this assignment feeling more comfortable with the technology, and having seen it work.

This assignment fits in with a learner-centered education model. The instructor facilitates learning by students in a collaborative method. The learning outcome moves from knowledge acquisition to knowledge integration.

Keywords: Wiki, Web 2.0 Technologies, Collaborative Learning, Learner-Centered Education

1. INTRODUCTION

An introductory Management Information Systems class is taught at many institutions as a required course for all business students. The course serves many purposes, including serving other majors, and introducing Information Systems students to the major. Recent textbooks for this course contain concepts on collaboration as a way to work and Web 2.0 as a set of technologies. In class, collaboration is introduced as individuals working together and building on each other's work to produce a useful result, or as the old adage puts it "two heads are better than one." However, the definition of Web 2.0 varies but it generally refers to using the web as a platform "harnessing collective intelligence" (O'Reilly, 2005.) The concept includes services that improve with more users such as Wikis and Blogs.

1.1 The Setting

In a university in the mid-Atlantic region of the United States, the introductory Management Information Systems course is taught primarily to sophomores and freshmen in the college of business. The course contains a lecture component as well as a technology component. The lecture component is a broad survey of the information systems field including organization information systems, hardware, software, competing using information systems, and systems development.

The course is taught by many professors in many sections. The course has shared objectives across all professors and sections. These objectives are in the form "by the end of the semester, the student will be able to…" with detailed objectives ranging from "Create a database using a relational DBMS such as Access. Demonstrate the ability to create reports, queries and join three tables in the DBMS" to "Explain the difference between data and information" or "Be able to apply Porter's Five Forces Model."

1.2 Collaboration as an objective of the course

For several years, the course included an objective for students to be able to create a simple webpage using a tool such as FrontPage. In the last few years, that objective was removed and we debated what technology should replace it. Faculty members experimented with various technologies including wikis, blogs, project management software, and some simple programming. In the 2008-2009 academic year, the decision was made to include a collaboration objective which has two parts:

1. Understand what collaboration is and why it's done
2. Be able to use technology to collaborate

There are many reasons why collaboration was chosen as an objective for this class. First, the premier business school accreditation association, AACSB, requires business faculty members to encourage collaboration among students and to help students develop skills in collaboration (AACSB, 2009.) As a reflection of this, our college of business has a core learning objective that students can work cooperatively in teams. We suggested that the introductory Management Information Systems class be used to teach team collaboration using technology tools. Similarly, many Information Systems programs, including ours, seek

accreditation from ABET, the Accreditation Board for Engineering and Technology. ABET requires that students "demonstrate an ability to function effectively on teams to accomplish a common goal," (ABET 2009-2010, p. 5.) This program chose to introduce the team work concept in the introductory course.

A second motivation for adopting collaboration as an objective was part of a general move from the traditional teacher-centered educational philosophy to a more learner-centered philosophy. In the learner-centered philosophy, students' internal motivation to learn is tapped by giving them more control over how they learn and more of a role in constructing their knowledge (Weimer, 2002.) Weimer identified five key changes that must take place in the move to learner-centered education. The two changes relevant for this study are:

- The **role of the teacher** must change. In this change, students teach each other course content. The teachers guide and facilitate learning, empowering students to discover knowledge and learn from each other in a controlled learning environment (Weimer, 2002). For students to learn from each other, they must collaborate.
- The **responsibility for learning** changes from the faculty member to the student. Instructors develop an environment which encourages students to learn effectively and to support the learning efforts of other students. (Weimer, 2002.) Again for students to support the learning efforts of other students, they must collaborate.

Many IS researchers have discuss how important learner-centered learning is in IS education, (e.g., Schiller, 2009, Huang, 2007) and specifically in the introductory MIS class (Bakke, et al., 2007.) The collaborative nature of these shifts makes it important to add collaboration and the tools that support it to the objectives of this class.

Thirdly because of the importance of collaboration in the workplace, many textbooks for this course have added collaboration to the course. The textbook we chose for the course, *Using MIS, second edition,* (Kroenke, 2009) has a strong focus on collaboration. Kroenke not only defines collaboration and introduces collaboration tools, but he also covers the process of collaboration. For example, students learn about feedback and iteration as an important part of collaboration. With this emphasis in the book, the publisher offers SharePoint as a platform for users of the textbook. We decided to adopt the textbook and teach some basic SharePoint in the class.

1.3 Study Guide Project

Huang and Behara (2007) provide a model for mapping objectives to Web 2.0 technologies. They suggest mapping the **desired outcome** to an **instructional channel** to the **Web 2.0 tool**. Using this model, the **desired outcome** is to understand what collaboration is, why it's done, and to use technology in this collaboration.

The next step in Huang and Behara's model is to choose the appropriate instructional channel or task. Part of the final examination in this class is cumulative with questions based upon the course objectives. All students in the course are given the same questions for assessment purposes. In most sections the final examination is worth about twenty percent of their grade. Students feel overwhelmed by the cumulative nature of the final and ask for guidance on the final including study guides and study sessions. In a learner-centered model of education, this guidance should come from the students themselves, rather than the instructor. Additionally, the learner-centered model suggests that the task should tap the student's internal motivation so one of the goals of this project was to find an instructional channel that would be truly meaningful to the students. The most effective learning environment is one where the students are truly motivated to learn the concept (Schank & Kass, 1996.) Students learn more when they truly need the skills to accomplish a task that is meaningful to them (Norman & Spohrer, 1996.) The instructor felt that students who were calling for study guides would be motivated by a task that had them creating a study guide. The task adopted was collaborating to prepare a study guide for the exam. Before this assignment, collaboration concepts were simply definitions to be memorized and SharePoint technology was a rather cumbersome tool. The study guide project provided a motivating goal to learn both. Therefore, the **instructional channel** is a team project to create a study guide for the final examination.

SharePoint has many collaborative technologies embedded in the platform including wikis, blogs, and discussion boards. Wikis have been suggested a collaboration tool that makes students comfortable with working on a team (Hazari, et al., 2009,) promote student engagement (Hazari, et al., 2009,) and encourage collaboration (Harris & Rea, 2009.) A wiki is also well suited to the task of a study guide. The objectives are listed on the first page of the wiki and explanations are added as linked pages. Thus, the **instructional tool** adopted is a wiki, most recently done using SharePoint technology.

2. THE ASSIGNMENT

The assignment is given three to four weeks before the end of the semester, or just when students would start to worry about the final examination. The complete assignment is found in Appendix A. The instructor preloaded the wiki with a list of the course objectives. Students are told that the cumulative part of the final examination will be based upon these objectives with one or more question on each objective. They are assigned to collaborate to create a study guide on these objectives.

The assignment has three major requirements:

1. Participation over time. Students must participate in the wiki every few days over the remaining part of the semester.
2. Add new material. Students must create new wiki pages for topics of their choice.
3. Revise and edit someone else's material.

Students are given direction on what types of material they might use: definitions, references to chapters in the book, references to pages in the book, examples, links to web pages, pictures, questions to another student, answers to a question, or whatever they think might be helpful. The use of the textbook is assumed so that they do not have to worry

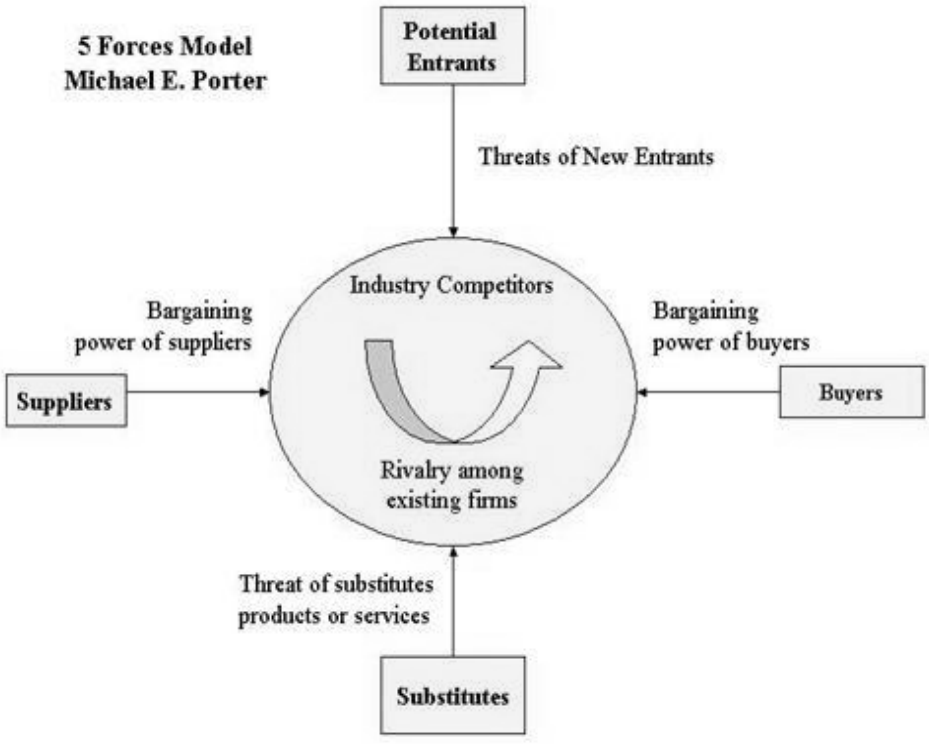
First version	there are five competitive forces in Porter's model that determine industry profitability.... bargaining power of customers, threat of substitutions, bargaining power of suppliers, threat of new entrants, and rivalry among existing firms. how organizations respond to these forces determines how they will create their competitive strategy. all these forces involve rivalry, which is in the center of the diagram on p. 64 info on page 63-64
Seventh version	There are five competitive forces in Porter's model that determine industry profitability.... bargaining power of customers, threat of substitutions, bargaining power of suppliers, threat of new entrants, and rivalry among existing firms. how organizations respond to these forces determines how they will create their competitive strategy .all of these forces involve rivalry, which is in the center of the diagram on p. 64 info on page 63-64 Porter's Five Forces Model: found on page 64 in our book. It's a graph showing the forces on a firm within an industry. the five forces are: New Vendors (threats of new entrants) Customers (bargaining power of customers) Substitute vendors (threat of substitutions) Suppliers (bargaining power of suppliers) Rivalry (competition between existing businesses) An example would be if we were looking at the store American Eagle New Vendors- the threat of having another teen clothing store coming into the industry Customers- teenagers and young adults Substitute vendors- stores that teenagers and young adults shop at instead of buying clothes like a jewelry store (Claires) Suppliers- Jean maufacturers, clothing manufacturers Rivarly- competition with Abercrombie, Hollister, Gap 

Table 1: Wiki entries for the learning objective: *Be able to apply Porter's Five Forces Model*
Page numbers and some of the text are from Kroenke, 2009. Spelling, grammar, and formatting are as typed by the students.

about plagiarism of the textbook though page numbers should be given. All other material needs to be referenced.
At the same time that the assignment is given, a class room discussion is held where they remind themselves of what collaboration means and the importance of feedback and iteration. They are also reminded of the cumulative nature of the exam and it is pointed out that by creating the study guide, they're getting started on their studying for the final early.

The results can be impressive. Spring semester 2009, a class of 28 students (primarily freshmen) created a 70 page study guide. Examples of two wiki pages are shown in Tables 1 and 2.

Table 1 shows the learning objective of being able to apply Porter's Five Forces Model. In the earliest version, a textual description right out of the book is given. The page went through 7 revisions by six different students. By the last version, a student has added an example of the forces in practice and another student has added a picture of the model. This is unedited text and includes their misspellings and grammatical errors. It also includes a lot of text taken straight from the textbook, (Kroenke, 2009.)

The wiki has also been used to have discussions about what a particular objective means. One objective is that the student be able to use common personal productivity tools. The wording on this objective was not tied directly to the textbook, and as can be seen, students were not sure what it meant. In Table 2, three students discuss it and end up with a reasonable understanding of the objective.

First version	I am not sure what common personal productivity tools are. I have looked through the book and cannot seem to find any information on it. Does any one in class know what these personal productivity tools are?
First response	I couldn't find anything on them in the book either, but I googled it. Basically what I found was that they are "tools" on the computer that help you do things easier. Examples would be Google Earth, Copernic Desktop search (organizes your desktop), Angel Backup (backup service).
Second response	If you look at chapter 4 Q4 on page 118 (since this is under the software section) I think that by the previous definition that was given in this file that she is talking about the various types of software applications such as off-the-shelf-software and operating systems such as Vista. I think she is just wanting us to mention stuff about its common use and why it is used rather than a formal definition breakdown of each object.

Table 2: Wiki Entries for the Learning Objective: *Use common personal productivity tools*

Table 3 shows different types and examples of content that students contributed. The examples are from the learning objective: Explain the difference between data versus information. This objective is commonly revised since it is the first one in the detailed list of objectives. In Spring 2009, eleven different students revised this objective.

3. THE MECHANICS

3.1 Technology

There are many Wiki tools available for a classroom. Some are free, such as the basic PBWiki. Pearson Prentice Hall provides use of SharePoint, Microsoft's collaboration tool, with some of their textbooks including Kroenke's textbook. At this university, both PBWiki and SharePoint have been used. PBWiki is much easier for the students to work with, but it does add to the difficulty of grading. SharePoint provides administrator reporting tools which make it easier to grade but the complexity of the tool can get in the way of the students. Having this as the last of several exercises using SharePoint, helped with this issue. SharePoint also saves versions of the page as it goes through revision. This allows both a student who accidently removes or revises content to retrieve it, and the instructor to see exactly what content a student provides. This is not possible in PBWiki.

3.2 Grading

Harris and Rea (2009) point out that one of the difficulties of using a wiki in instruction is grading the work. Since the final product is the work of several students, it can be difficult to judge which student wrote what. For that reason, in this assignment the emphasis is on the creation of a useful study guide; rather than on assessing an individual's quality of work. The grading is equally weighted on the three areas of the assignment: sustained participation, entering original content, and revising other students' work. A grading rubric is found in Appendix B.

In the free version of PBWiki where there are no reporting tools on participation, students filled out a worksheet that showed what days they had provided content and what type of content they provided. As a backup, the wiki was set up to send the instructor an e-mail with automatic notification of whenever a page was changed, who changed it and what changes they made. These automatic notifications were filtered into a separate folder in the instructor's e-mail account. This rather primitive grading system worked very well. A few students forgot to write down what they did and the e-mails allowed reconstruction of their work. Most remembered to fill out the worksheet and turned it in on the day of the final exam. Frequent users usually under reported their participation rather than over reported.

SharePoint has administrator reports showing which students had participated and when, which students had created pages and which students edited pages. This made it much simpler to grade and students did not need to document the changes they made.

Type of participation	**Example**	**Notes**
Definitions	• **Data-** recorded facts or figures. • **Information-** 1. Knowledge derived from data, where data is defined as recorded facts or figures. 2. Data presented in a meaningful context. 3. Data processed by summing, ordering, averaging, grouping, comparing, or other similar operations. 4. A difference that makes a difference.	• Usually the first entry • Often right from the book
Adding reference to page numbers in the book	More on information can be found in chapter 1 Q4 (page 11).	
Examples	*An example of data versus information follows: the facts that employees James Smith earns $17.50 per hour and that Mary Jones earns $25.00 per hour are data. The statement that the average hourly wage of all employees in the Garden department is $22.37 per hour is information.*	Examples can be taken right from the book as this one was. However some students will develop their own examples such as the American Eagle example in Table 1.
Formatting changes	An example of data versus information would be as follows: the facts that employees James Smith earns $17.50 per hour and that Mary Jones earns $25.00 per hour are **data.** The statement that the average hourly wage of all employees in the Garden department is $22.37 per hour is **information** .	Common types are: • Change of fonts • Additions of numbering or bullets • Additions of emphasis using bold or italics • Correction of errors and typos Often done at last minute by people who have not participated yet
Putting concepts in their own words	*Data is only the raw numbers that really don't mean anything to the user. However, it becomes information once the data has been processed in a way that the user can understand, like averages, sums, or counts.*	
Adding explanation, detail, or pictures	*Characteristics of good information:* *- Accuracy: good information is based on correct and complete data, and it has been processed correctly as expected.* *- Timely: produced in time for its intended use.* *- Relevant: both to context and to the subject.* *- Sufficient: for the purpose for which it is generated, but just barely so.* *- Worth its cost: there must be an appropriate relationship between the cost of information and its value.*	

Table 3: Types of Participation in Wiki Entries
Shown for the Learning Objective: *Explain the difference between data versus information*
Page numbers and some of the text are from Kroenke, 2009. Spelling, grammar, and formatting are as typed by the students.

For students to view this as a true collaboration exercise which has a real purpose for them, the percentage of points given to this assignment should be relatively small in the context of the class. If it is too high a percentage, it runs the risk of becoming an end in itself rather than a means to another goal. The points given have varied from 2 to 3 percent of their course grade.

3.3 Group Size

This assignment has been tried with as few as 10 students in a group and with as many as 70 (across two sections of the class). If there are too many students, you end up having frivolous pages and the wiki loses its value as a study guide. With too few students, the study guide has too many holes to be useful. The size of the group should be carefully coordinated with the amount of entries and revisions required in the assignment and the number of course objectives. The last time the assignment was given, students were required to add three original pages each and revise at least three pages created by other students. With that requirement, having about three times the number of objectives as there were students in the group worked well. The instructor should monitor student use and if the students are running out of objectives to create original pages for, the instructor can suggest building a deeper structure in the wiki; i.e., having a single page reference other pages.

4. STUDENT REACTIONS

In general, students have been quite favorable about their wiki study guide. Table 4 provides some representative comments both positive and negative. To get these comments, in SharePoint, an e-mail was sent to the class asking for feedback after the course grades were given. PBWiki has a comments section in the wiki itself and as part of the assignment students were asked to make at least one comment to any page. These comments were left on the main page of the wiki.

5. DISCUSSION

5.1 Keeping the focus on collaboration

This assignment works because the students care about the results and benefit from a good result. Until this assignment was given, SharePoint had been viewed as a burden rather than a tool. The SharePoint negativism can be seen in some of their comments:

- "I liked the assignment. While I was not a fan of [SharePoint] in general, I really enjoyed creating the study guide."
- "At first I thought the assignment was going to be somewhat tedious or frustrating like the other [SharePoint] project we did. Yet I liked this assignment better because it was good review"

In effect, this assignment turned the students from skeptical consumers of a force-fed technology to engaged workers who collaborated to create their own knowledge product using Web 2.0 tools (Watson, et al., 2008.)

Students do not necessarily make the connection between collaboration and this assignment on their own. The instructor needs to guide them into making that connection. Class discussion was used to refresh the students on what collaboration was. The instructor then discussed the assignment in terms of collaboration.

One danger of this assignment is reflected in one of the negative comments: "I was more focused on getting in the answers for credit than putting substantial thought into what I was doing. I didn't dislike it, I just didn't see its purpose. I felt like it was only put in place so we'd do more wiki activities." If students view this as just another hurdle or credit in the class, they will not appreciate the assignment. Having it worth too many points increases the danger that they will focus on fulfilling the requirements, rather than as a collaborative study guide.

5.2 Grading on Quality of Work

As can be seen, the quality of the content is not considered in their grade. Clearly the student who provided the American Eagle example (in Table 1) and the student who phrased the concept in his own words (in Table 3) engaged in deeper critical thinking than the student who removed the italics and added bold to the definition (in Table 3.) The lack of consideration of quality was a deliberate choice by the instructor for several reasons. First, the purpose of collaboration is to achieve a common goal. The instructor emphasizes that the goal of the exercise is to study for the exam. Students are reminded that as they contribute to the wiki, they are studying in advance. The instructor tells the students that if they pick topics that they don't remember, use their own words, or provide examples, that they will learn more and do better on the exam. In effect, doing higher quality work is its own reward. Second, the grading rubric forces students to create content and participate over time or they will receive a lower grade. A student who simply adds emphasis to others' content will not do well on the assignment. Third, PBwiki, the tool used in earlier versions of the assignment made it quite difficult to determine what a student had actually contributed. Even in SharePoint, the grading burden would be much higher if quality of contribution was considered.

However the most important factor in not considering quality in the grade is a philosophical one. The learner-centered educational philosophy puts the responsibility for learning on the students themselves. A student, who chooses to use this assignment to learn more material to do well on the exam, is provided with the opportunity to do so. A student who chooses to do the bare minimum to get the grade on the wiki assignment can do so, but will not learn the material as well. In this case, the instructor has chosen to explain the reasoning behind the assignment and facilitate the better students in their goal. An instructor could choose to take the learning-centered approach a step further, release control over the grading, and let students decide whether quality should matter to their grade**. (**This would fall into another of Weimer's suggested changes for learner-centered teaching, changing the balance of power from **the instructor to the learner,** Weimer, 2002.**)**

5.3 Effect on Student Grades

Does the study guide wiki really help in exam grades? The students who provide the best quality in their wiki entries tend to do better on the final exam; however, causality

Positive Feedback on the usefulness of the assignment:
Honestly I was a little skeptical as to the usefulness of this page. After sitting down and studying for this final and knowing the ease of finding the answers, this wiki has proven way more useful than I ever thought it would be to me. Great idea.
I think the wiki was a very effective study tool… I found that looking at it helped me remember what we talked about in class. The wiki is good because it allows students to somewhat "relearn" what we did in class by posting terms, pictures, charts, comparisons, etc.
It helped give a brief summary of what exactly was covered in the course and allowed me to see where some knowledge holes were. I liked the assignment because it allowed me to figure out some of the places that I needed a refresher on.
Participating in the wiki study guide was one of the most helpful tools I used to study for the final exam. Because we were assigned to work on it throughout a two week period, it allowed for me to study gradually and not have to cram all at once. I studied with other [students] who were in different classes, and we all used the wiki to study. They all agreed that it was the most helpful study guide they have had all year. After the exam, they all thanked me and stated that they wished their teachers had done the same.
I thought that the study guide was a beneficial aid in studying for the exam. By having to add our own information, I was able to understand the topic I wrote about much more.
The Wiki Study Guide was very helpful to organize my thoughts and pinpoint what I should focus my studying on. I did much better on the test by going through this study guide as opposed to using the MIS book's chapter reviews.
Negative Feedback on the assignment in general:
I was more focused on getting in the answers for credit than putting substantial thought into what I was doing. I didn't dislike it, I just didn't see its purpose. I felt like it was only put in place so we'd do more wiki activities.
Some of the topics in the study guide were filled with information, but some had much less. It could be helpful to have a review on it before the test.
I did not study from the study guide, although I wish I did in hindsight.
There needs to be an easy way to print from it.
Feedback on SharePoint:
…I liked the assignment. While I was not a fan of sharepoint in general, I really enjoyed creating the study guide.
At first I thought the assignment was going to be somewhat tedious or frustrating like the other Sharepoint project we did.
Feedback on Motivation:
I did like the assignment because it made me look over the material more often and it also helped me gain addition points I needed for the class which motivated me more.
Feedback on Collaboration:
I thought that the study guide was a good guideline for showing what would be on the test. I also think it is helpful, because the collaboration takes off a lot time in doing the study guide alone.
Participating in the study guide did help me while preparing for the final exam; however, my participation in the study guide was somewhat limited and I could have been more active if smaller groups were assigned to do all of the questions instead of the entire class.
The feedback and postings by other students also served as good reviews and I used it to quiz myself on each topic.
It definitely helped having it all in one place rather than reading the book. Good contributions!
Yet I liked this assignment better because it was good review and I could earn my own grade rather than relying on others in my group. Since everyone contributed for their own grade, the wiki guide was very thorough and useful.

Table 4: Feedback on the assignment

cannot be inferred. These students tend to do better on all aspects of the class and it may simply be that the students are motivated to do better on the exam are also motivated to do better work on the wiki and more capable of doing better work. Average grades on the final exam increased substantially with introduction of the assignment (about five percent, allowing the instructor to make the exam more difficult). However, this increase also coincides with a change in textbook and with moving the day of the final exam from late in exam week to early in exam week. Thus

it cannot be stated conclusively that the wiki helps students do better on the exam.

6. CONCLUSION

Collaboration is an important objective to add to an introductory information systems class. It helps meet the needs of the workplace, the requirements of the accreditation bodies, and the needs of our students. To effectively teach collaboration, we must teach our students what collaboration is, how the process of collaboration is done, and what tools can support collaboration.

Researchers such as Harris and Rea (2009) have called for the effective use of Web 2.0 tools such as wikis and blogs to increase learning and promote active learning techniques. The effective use of a wiki helps move the responsibility for learning from the professor to the student. With the right assignments, we can help students move from skeptical users who do an assignment because it is one more hurdle to jump in the class, to students who learn to appreciate the concept of collaboration and how technology can promote collaboration.

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APPENDIX A: ASSIGNMENT GIVEN SPRING 2009
Collaboration Exercise 4

The final exam in this class is partially cumulative. There will be one or more questions on each of several learning objectives on the exam. The last collaboration exercise is to collaborate in creating a Study Guide Wiki which can help you study for the exam. This will be done as a class rather than in your teams. If everyone participates, you will have a good study guide to use for the cumulative portion of the final exam.

On the SharePoint page, I have created a Study Guide Wiki. The opening page lists the learning objectives for this class. As a class, you will create more information about these topics which you can use to study from. Remember, we learned how to do a wiki in Collaboration Exercise 2.

Pick a topic on the opening page. If it already has a link, someone else has started working on that topic. You can modify their wiki page – that's what wikis are all about. If it does not have a link, you can start the wiki page for that topic. Put [[brackets]] around it to create a link to a new blank page.

Suggested content on each wiki page might be definitions, references to chapters, references to pages, examples, links to other pages, pictures or whatever else you think would be helpful. You might even add a question or comment that someone else might be able to answer.

Grading criteria:

- Did you personally participate in the wiki over time? I suggest that you plan on making changes every couple of days over the remaining three weeks of classes. To get a 10, you will need to show sustained participation on this exercise over time.
- Did you add new material by creating a wiki page? You should have created new material at least three times (depending on how extensive your material was) to get a 10.
- Did you make changes to someone else's wiki page? You should have participated in someone else's page at least three times (depending on how extensive your change was) to get a 10.

APPENDIX B: SAMPLE RUBRIC FOR GRADING WIKI PARTICIPATION

In Spring 2009, students were graded on a 10 point scale. Four areas were included in their grade:

1. Sustained participation (1 – 3 points)
   1 point for participation on a single day
   2 points for participation on multiple days
   3 points for participation over the length of the assignment
2. Entering original content (1 – 3 points)
   1 point for creating 1 page
   2 points for creating 2 pages
   3 points for creating 3 or more pages
3. Revising or providing feedback on other students' work (1 – 3 points)
   1 point for editing 1 page
   2 points for editing 2 pages
   3 points for editing 3 pages
4. Learning how to use the wiki (1 point)
   1 point for providing any content to the wiki

In prior semesters, points were also given for organizing the wiki. These points were usually given for providing useful links between pages with related content. Few students did this and the criteria was dropped.

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