About the Author

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Diane's first contact with the concept of “writing to learn” was at a workshop sponsored by the Challenge Grant and given by Mary Anne Palladino. Diane will become a member of the Write to Learn resource staff this fall.
Learning
Management Information Systems through Writing

Diane Hamilton

I have been using writing as an effective tool for helping students learn complicated material in the field of Management Information Systems. However, the same writing assignment should prove effective for any other course where (1) the material must be learned prior to coming to class, and (2) the material is sufficiently complex so as to require more than a quick reading to ensure comprehension. Below I have described the course, the writing assignment, and the results which I obtained.

The Course
Seminar in Management Information Systems is a senior level course required of all students who major in business administration and choose to specialize in Management Information Systems (MIS). The course is divided into three sections by topic area, and each section is covered using a different teaching methodology. There are three main topic areas included in the course: expert systems, human factors considerations in information systems, and conceptual data modeling. The first four weeks of the course, the expert systems part, is taught by lecture. Then, to reinforce what’s covered in the lecture, students must develop a real expert system as a
semester project. Conceptual data modeling is covered during the final four weeks of the course. During this time, students read about a different modeling formalism each week prior to coming to class. Then, during the class period, I review the modeling constructs, and the class, as a group, develops a data model for a practice data set which I provide. The remainder of the course concentrates on the human factors considerations in information systems, and it is during these seven weeks that I utilize writing assignments to help the students learn the material. Prior to the start of each semester, I compile approximately twenty journal articles on computer-human interaction, which students read at a pace of about three per week. In almost every case, this is the students’ first exposure to the research literature in their field, and they find it quite difficult to understand for several reasons:

1. Much of the jargon is strange to them, or, at best, they are not completely comfortable with it.
2. Many of the articles describe the results of some experimentation, a process which is unfamiliar to them.
3. The statistical reporting is difficult for them to understand, even though they have had two prerequisite courses in statistical theory and application.

*The Writing Assignment*

To help them comprehend this difficult information, I require that students prepare a summary for each article, no longer than one typed page. The summaries must be prepared using a word processor, and the final document must have been run through a spell checker. (There is a 20-point penalty for misspelled words to encourage adherence to this second directive.) Each week the students are responsible for summarizing three journal articles related to a specific subtopic, e.g., interactive interface design or user satisfaction, and these written summaries comprise 40% of their final semester grade. The other 60% includes the expert system development and class participation. Giving so much weight to the written assignments provides the necessary
motivation to encourage the students to put forth their best effort. There are three reasons why the seminar course includes this type of writing assignment:

1. To distill a fifteen-page journal article into a one-page summary requires that the student read the material carefully in order to determine the essence of the work and the most salient points.

2. Since the class period is devoted to a discussion of the articles, with further clarification of any additional topics mentioned but not fully explained within the articles, the time students must spend carefully reading the articles and preparing the written summary ensures that students will come to class with a good understanding of this basic material.

3. As we are preparing students to enter the world of business, and since an important facet of business communication requires the summarization of written information, the summarization process itself allows the students to gain an important writing skill which will be called upon often during their career.

Once the students prepare their summaries, they don't merely hand them in and forget about them. First, the summaries act as memory joggers to help students participate in the class discussion. Second, the students receive feedback on their summaries from three different sources—myself and two fellow students. I respond to their summaries in light of the content which they choose to include, as well as their use of proper grammar and spelling. This takes me only a few hours each week. The feedback from other students takes place during the final twenty-five minutes of each class period (class meets one night a week for two hours and forty minutes). During this time the students form into three-person groups and critique the papers of their group members. Note that group membership is different each week to provide the maximum diversity in feedback. The critiquing process includes, at a minimum, both a
comment indicating what the student liked best about each summary and a comment indicating the most significant weakness of the summary. After each student completes a critique for the other group members, the group is required to come to a consensus about how the three summaries should be ranked for quality. This peer review process offers several advantages:

1. Reading two additional summaries for each article after writing one’s own summary reinforces the content of the journal article.
2. Seeing how other people summarized the same material provides illustrations of how to write a “good” summary as well as what would be a “bad” summary.
3. Although I feel that I can provide good feedback regarding the students’ writing (both content and style), each person naturally has a preferred style. Since I might unintentionally prefer one writing style to another, receiving feedback from numerous other people tempers this stylistic bias.
4. Receiving feedback from their peers helps students to realize that this kind of help is worthwhile, and it will certainly be helpful when they enter the business world.
5. Lastly, many students who specialize in Management Information Systems will find work as programmers or systems analysts. These careers generally involve working with a team, and team review and critique are often a part of the job. Doing this in-class exercise helps them to accept criticism appropriately and learn how to give constructive criticism in a tactful manner.

The Outcomes
I have found that the first set of summaries I receive each semester is very deficient in both content and presentation. Although there are always some students who already have excellent writing skills, the average grade for this first set is generally about a 60. Giving the students repeated feedback about how to improve their summarization skills allows them to
improve substantially throughout the semester. The average grade on the last set of summaries is generally about 80, yielding a significant improvement!

The grade differential, however, is not the most important outcome of the writing assignment. As a result of the time and effort expended to compose the summaries, the students really do acquire a considerable understanding of the assigned reading before each class period. Further, they know exactly what they don't understand. Since the students are all coming to class much better prepared than they would be if I merely asked them to read the articles, I am able to conduct the class discussion at a higher level. Instead of having to lecture to the students on the assigned material, I am able to use the in-class period to expound upon the difficult parts of the article and to take the time to lecture about additional information which is related to the day's topic. The end result is that much more material can be effectively covered within the seminar course.

*The Students' Assessment*

I have been using this format for the seminar class for three semesters now, and the students seem as excited about it as I am. At the end of each semester, I have asked them to give me their anonymous comments on the summary writing and group critique process, and they have overwhelmingly responded that (1) the summaries forced them to really read the articles carefully; and (2) the peer critique process, following the general class discussion, significantly improves their understanding of the assigned topic.

Interestingly, very few students have ever mentioned that this forced, repetitive writing had helped them to improve their writing skills. However, I know their writing has improved. Thus, this process has really reinforced my belief that writing can help students learn. In this class, a very simple writing assignment has significantly helped students to learn the subject matter, and as a side effect, they have been able to improve their summarization skills.