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Comprehensive Writing Assignments Across the Information Systems Curriculum

H. E. Longenecker
University of Alabama, bart@cis.usouthal.edu

R. J. Daigle
University of Alabama

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H. E. Longenecker
R. J. Daigle
University of South Alabama
Mobile, Alabama
(Internet: Bart@CIS.USouthAl)

Introduction

Employers of IS graduates state (Hoffman 1991; Lee and Trauth 1995; Couger 1995) that primary skills of successful IS professionals include excellence in communication and problem solving. The importance of achieving excellence in these skills has been recognized formally in the joint ACM/AIS/DPMA IS'96 model curriculum for four programs in Information Systems (Longenecker et al 1996) and acknowledged in former curriculum documents of both the ACM and DPMA (see Longenecker et al 1996).

It has become increasingly apparent that the traditional "talkinghead" approach to education is one of the least effective passive learning mechanisms and is associated with very poor retention of material (Johnson et al 1990). There is an increasing demand for active learning mechanisms that "involve" the learner and encourage the learner to take personal responsibility for learning.

Techniques that elicit participation by causing the learner to think of what to do encourage the learner to take personal responsibility for learning and for learning to learn. The more relevant the task is to the learner, the more likely is the learner's involvement and commitment and the more likely is the learner's adoption of the technique as a habit. These habits are necessary for our graduates to become and remain successful.

Benefits of Writing

Nationally, a movement called "Writing Across the Curriculum (WAC)" has been developing over the past decade (Moss and Holder 1988). The focus of the movement is that writing should be viewed as an effective tool of the "active" learning process. Observation and explanation of ideas give the learner practice needed to fix and retain ideas. Written responses to problem or issuebased questions exercise critical thinking and communication skills. Writing and rewriting documents helps to develop organizational and expository skills fundamental to the communication process.

The difference between note taking and figuring out what the notes mean can be practiced through the writing of journals: Observations are recorded and then explanation of observations are developed. By so doing, the learner has to confront the idea as well as its context by making a commitment to its identity, and then again through its explanation. This gives the learner a specific process to acquire, explore and classify, use and retain ideas. By asking problem solving and issue questions there is an additional facilitation of the learning process which promotes in depth exploration and explanation needed to understand an idea in terms of its context and utility.

Writing/receiving carefully constructed questions about alternatives issues, styles, and approaches, and rewriting documents helps to develop organizational and expository skills fundamental to the communication process. Applying such techniques both in short paragraph level abstractions and position statements, as well as in longer documents are essential learning tools.

Writing Assignments in IS

In Figure 1 some of the primary writing tasks we give to our students to facilitate their learning are presented. Perhaps no one of these techniques alone would be sufficient, but taken together they have a remarkable effect in stimulating the learning process and in motivating the students. The increases in performance ability of students who utilize these techniques has allowed us to accelerate the schedule of learning activities, and to develop a considerably more confident and capable graduate.

Figure 2 contains a sketch of the writing techniques employed at various levels of the IS curriculum. We have become aware that although the writing activities greatly increase the workload of the students, their compliance with the requests and their delight in being successful is highly rewarding to both faculty and students. There is no doubt that with practice, their skill improves. As the students learn to picture situations and discuss their observations, this combined right and then left brain activity greatly increases their capacity to understand relationships (Couger 1995). With additional practice, these creative skills start to pay off as the students become willing to accept the rigors of dealing with application level (IS'96 level 4) knowledge expectations required in more advanced courses.

Within this session we will explore each of the techniques in detail and give explicit samples and recommendations for implementing the techniques. We will also review the use of the techniques within the different courses, and we plan to explore how participants might use these techniques in their own courses.

References

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Double Entry Journal Level 2,3
Using a two column table, learners make observations of events, facts, or of whatever object recording these observations in column 1. In the second column, they are directed to explain and comment on the observation identifying relevant and distinguishing features. This process allows deep exploration of ideas. Learners may be asked to generate as many as a dozen ideas per week and record them using word processor tables.
Triple Entry Journal Level 3,4

Same as double entry journal, but with the addition of a third column in which the learner is directed to identify several issues and discuss them, and/or several problems related to the explanation and consider solutions for them.

Issues and Problems Level 3,4

Learners are encouraged to ask questions that either raise issues (invite a dividing or discriminating response) or pose problems (invite steps or suggestions for action). Both forms of questions cause the learner to spend significant thought regarding a given subject area and increase the depth of knowledge.

ISSUE: Which is better, this or that?

PROBLEM: How could this task be done?

Meeting Documents Level 4

Premeeting Planning

purpose and agenda generation

Meeting Minutes/Log

detailed statements of meeting events, best when obtained online

Time Accounting Level 3

Team harmony is monitored via each member's recording of outcomes of their individual activities: task completion, topic research, team meetings, problem analysis and solution, individual and team decisions, and general reflections on the team project. Detailed time logs are submitted once a week; summary time logs are submitted at the end of each quarter.

Technical Writing and Revision Level 3,4

A team of students prepare project documents that are evaluated according to a broad outline and project objectives. Revisions place greater emphasis on the communication of ideas.

Presentation Level 3,4

After completion of the project documents, the team is challenged to seek a means of communicating the project ideas to a general audience by blending oral, visual, and written communication for inclass and public presentation.

IS'96.1 Introduction to IS

- double entry journals for most significant course objectives
- multiple exams requiring essay answers relating to objectives
- short reports on lab exercises

IS'96.3 Theory and Practice of IS

- triple entry journal on key objectives
- inclass essay exams
- lengthy takehome exams with multiple revisions allowed

IS'96.79 Information Systems: Analysis and Design

- meeting plans and logs
- standards development
- project logs
- interview logs
- presentation assignments

IS'96.10 Project Management and Practice

- writing about writing to overcome resistance to writing
- time logs
- technical documents

presentation