

Writing Effective PBL Problems

Institute for Transforming
Undergraduate Education



University of Delaware

March 14, 2008





Important Considerations in Writing Problems

Level of course and maturity of students

Time frame

Staging

Availability and access to learning resources

Use of prompting questions

Role of problem in accomplishing course's learning objectives



Types of Learning Objectives

Content-oriented: subject specific

- Basic knowledge and understanding of specific concepts, techniques, etc. in the discipline

Process-oriented: global skills

- Effective communication: oral and written
- Acquiring and evaluating information
- Working effectively with others
- Higher order, critical thinking



What Factors Influence Decisions About Problems?

Who is the problem writer?

- discipline
- control issues
- level of investment

What is the course?

- students (number and level)
- sequencing of course/problems
- time/structure of class



Step One: Identify Learning Objectives

Think of a learning objective in your course .

How do you usually address this learning objective? What kind of problem or activity do you usually assign?

Typical end-of-chapter problem?

A reading?

Other?

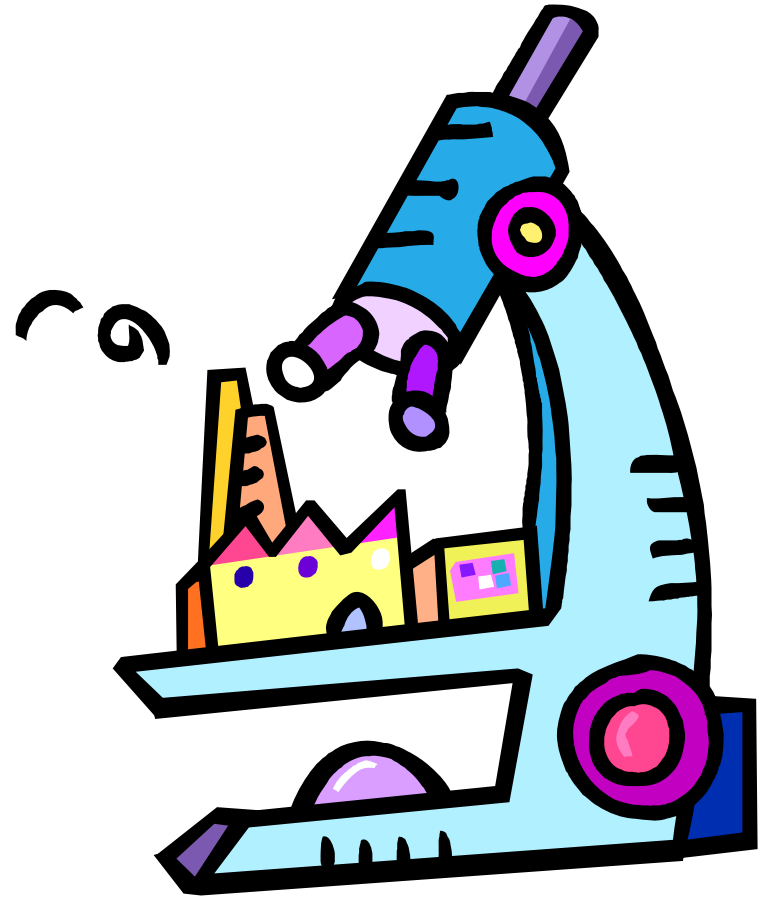
Solving Management Problems



Companies are increasingly monitoring employees to improve productivity and reduce liability:

What are the issues?

How should the monitoring of employees be managed?





Textbook Problem/Concept



“The secretarial pool is part of the group assigned to Doug. The pool has produced very low quality work for the past several months. Doug has access to the passwords for each of the pool members’ computer accounts. He instructs the supervisor to go into each hard drive after hours and obtain a sample document to check for quality control.”

If you were the supervisor, what would you do? Is this ethical?”

Pearlson and Saunders (2006), *Managing and Using Information Systems*, John Wiley & Sons, p. 211.



Step Two: Identify Real-World Context

- Name a realistic application of the concept.
- Outline a scenario.
- Ideas:
 - Add context
 - Be a storyteller
 - Add motivation, require students to go beyond rote learning; do research.
 - Include decision-making: what would YOU do as a manager?
 - Recognize that decision-making is not easy. Make the situation ambiguous; DON'T include all the information.
- Example: A Day in the Life of John Henry



A Real Life Scenario: Ever-Ready

“You can’t make this stuff up”

Information given gradually throughout
problem



Sources and Strategies for Writing Problems

Newspaper articles, news events

Popular press in the discipline

Make up a story – based on content objectives

Adapt a case to a problem

Research papers

Other?



Step Three: Draft the problem

Outline the problem.

What will be on the first page?

Suggestions:

- Good PBL problem has multi-page, multi-stage construction - leave students guessing!
- Not all information given in chapter or text - students look for resources.
- Challenge students to come to consensus, reach conclusions, and make judgments, deal with ambiguity



Ever-Ready– Monitoring Concerns

Stage 1: Judging if a problem exists. What information does Marsha need before she continues? What should she do?

Stage 2: Apparent change in direction, but still a focus on judgment and decision-making. “Surprise” (and open-ended) conclusion. Students need to make further judgment calls

Stage 3 (future direction): What are the implications of terminating Steve? What is the fallout from Marsha’s actions?



Mixing in Process Objectives with Content Objectives

Public-speaking: Groups present their approach before moving to the next stage.

Memo-writing: Final deliverable is the writing of a memo that presents their decision and logic behind it.

Research: Teams are required to find evidence to support their conclusions.



Teamwork: Students must learn to work together to solve the problem.



Reflections and Questions

