

# Writing Effective Problem-Based Materials



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# **Important Considerations in Writing Problems**

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- **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 objectives**



# Types of Learning Objectives

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## **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?

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## 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**

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**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?

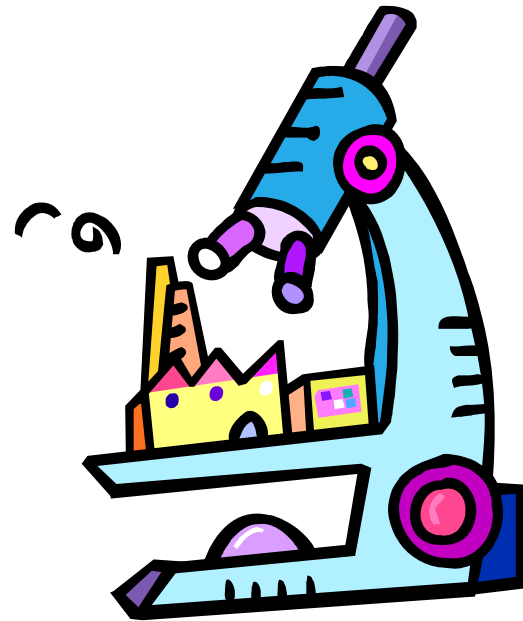


# Solving Management Problems

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**Companies are increasingly using monitoring to encourage employee productivity:**

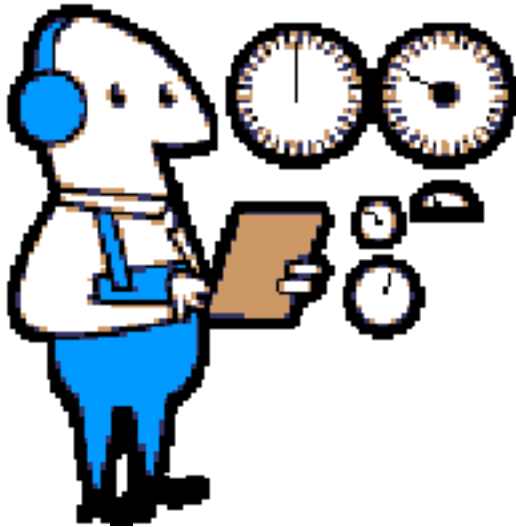
- **What are the issues?**
- **How should the monitoring of employees be managed?**





# Textbook Problem/Concept

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“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

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**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**



# A Real Life Scenario: MarTech

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- **Based on my wife's experiences**
- **“You can't make this stuff up”**
- **Information given gradually throughout problem**



# Sources and Strategies for Writing Problems

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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

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**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



# MarTech – Monitoring Concerns

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

**Stage 2:** More information given. “Surprise” (and open-ended) conclusion. Students need to make further judgment calls

**Stage 3:** What are the implications of terminating Steve? How do we handle Alan’s and Marsha’s actions?



# Activities Related to MarTech

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- Groups summarize each stage before moving to next.
- Final stage written up by group with complete analysis.





# Feedback To Presenters

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What did you like most about the problem?

Does it challenge students to think and do research?

Is the problem appropriate for the proposed course?



# Reflections and Questions

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