

CRITICAL THINKING:

How a Small College Tackled a Large General Education Competency and Won

Introduction

- This is the story of how Madisonville Community College developed a Quality Enhancement Plan around Critical Thinking to satisfy the Southern Association of Colleges and Schools
- Presenters: David Schuermer, Director of Grants, Planning, & Effectiveness, and Beth Moore, Curriculum Specialist

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The Beginning

- Madisonville Community College expected a SACS reaffirmation of accreditation visit in 2006. The process now includes an off-site review of materials and an on-site visit by a SACS team in October.
- Quality Enhancement Plan is the focus of the on-site visit.
- In 2005 a QEP Committee was organized to start the process. Faculty meetings are held to determine the focus for the QEP.

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Faculty meetings

- Professor Kim Simons relates her experience from last semester in Introduction to Business class
- The class assignment given: Ethical case studies
- Student X complains that the instructor has not given them the "right" answers for the case studies that will help him for the midterm test and he does not understand.
- Professor Simons explains that the "right" answer depends on numerous factors, which were outlined in the previous chapters they studied, and that the answer might change depending on the pertinent factors to be considered. Therefore, "it depends!"
- Student Y responds, "That will not help me make an A on the test!"
- Does this sound familiar? *

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Critical Thinking

- Topic came up across all faculty meetings called by different names
- QEP Committee definition
 - The practice of the skills of inquiry: To seek or encounter new knowledge, To analyze and synthesize in response to that knowledge, and To draw sound conclusions based upon acceptable reasons supported by objective evidence.
- THE POINT--Don't wordsmith—drive a stake and move on

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Assessment: The hard part

- How will we know when students are "thinking critically?" (Begin with the end in mind)
- Kinds of behaviors that show Critical Thinking is present
 - Troubleshoot equipment (Industrial maintenance)
 - Problem solving (Business)
 - Interpret information from a reading (English)
 - Analyze situation (Psychology)
 - Evaluate alternatives (Nursing)
 - Are there other examples in your discipline? *

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Faculty Expectations:
Align with subscales on a test of Critical Thinking

- These specific examples seemed to coincide with the Subscales of the California Critical Thinking Skills Test (CCTST)
 - Inference
 - Analysis
 - Evaluation
 - Induction
 - Deduction

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Choice of College-wide Assessment Tool

- QEP Subcommittee on Assessment formed
- Began with bibliography on Critical Thinking used by Dr. Craig Nelson and Internet search
- Issues considered
 - Could overall score break into subscores?
 - Was it affordable?
 - Could it be administered conveniently to new students & graduates (AA & AS)?

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Multiple Measures

- Multiple measures required by SACS
- College-wide assessment of California Critical Thinking Skills Test (CCTST)
- Discipline-level assessment of Critical Thinking Assessment Test (CAT) developed by Tennessee Tech University with NSF grant
 - Basic Public Speaking, Basic Anatomy & Physiology, Writing II
- Individual classroom assessment (Classroom Research Project) modeled after work of Cross & Steadman

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Where we are now---

- You are Division Chair in Humanities Division
- CCTST scores show scores of Associate in Arts & Associate in Science graduates in spring of 2007 not significantly different than scores of new students in fall of 2006
- CAT scores in Basic Public Speaking show no significant difference between the Pre-test given on Day 4 and the Post-test given on Day 28 during the spring of 2007
- Now what will you propose to do? *

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According to MCC, the Key is Faculty Development—but how?

- On-going series of CT Short Courses
- On-going CT Faculty Seminar
- Extended Course Release for selected Gen Ed faculty to restructure courses and focus on active learning strategies
- Course release and Seminar for New Faculty during their 1st semester of teaching

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Critical Thinking & Active Learning

- Might consider terms synonymous
- CT is the end
- Active Learning is the means
- Research is clear: CT more likely to take place when students are engaged (CCSSE!)

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**BA 160 Introduction to Business
Case Study Learning Activity**

**Used with permission of Professor Kim Simons, Social Sciences Division,
Madisonville Community College**

Below are several situations that present ethical questions in a business. Discuss each situation: (a) from the strictly legal viewpoint, (b) from a moral and ethical viewpoint, and (c) from the point of view of what is best in the long run for the company. Be sure to consider both short- and long-range consequences. Also look at each situation from the perspective of all groups concerned: customers, stockholders, employees, government, and community.

1. A disgruntled employee of your major competitor mails top-secret information or new product samples to you. Do you begin to do a dance on your desktop or do you immediately mail the information back to your competitor? What would you do?
 - a. Throw the plans or secrets away.
 - b. Send them to your research department for analysis.
 - c. Notify your competitor about what is going on.
 - d. Call the FBI.
2. You are the general manager of a regional chemical company. In the course of producing your bulk chemicals, large amounts of particles and smoke are emitted through your plant's smokestack. The level of pollutants is below current EPA regulations, and you are violating no laws, but neighborhood groups are complaining about minor health problems caused by the smoke. After investigating numerous alternatives, you find the most effective solution would be to install a "scrubber" system, which will remove 90% of the pollutants and ash. Cost: \$1 million. Do you install the system?
3. You are a general manager in a cosmetics firm. The results of a study show that your major brand could cause skin cancer. What do you do?
4. You have the opportunity to offer a job to a friend who really needs it. Although you believe that the friend could perform adequately, there are more qualified applicants.
5. You are the vice president of a beer company in a state which sets the legal drinking age at twenty-one. Your boss asks you to organize a lobbying effort to have the drinking age reduced to eighteen.
6. Because of a loophole in federal laws you find that you could legally pay your workers less than the minimum wage. The cost savings you recommend may mean your getting a choice promotion.
7. You are an accountant in a large firm. Your boss tells you to use a controversial accounting practice, which will make the company's profits seem higher. She

tells you it is only to impress stockholders and will not be used in statements submitted to the IRS.

8. You are required to fire a worker for persistent absenteeism, but you know that her absence is due to caring for her father who is in the advanced stage of Alzheimer's disease. You feel that the organization is being inhumane in its attitude, but your boss remains intransigent.
9. A worker is repeatedly late for work. You know she has family problems and is going through a difficult period with an alcoholic husband. Her work is inconsistent—sometimes average, often excellent. She has been with the company for nine years. On Monday she was two hours late for work.
10. You believe that your (male) boss is overly friendly with a (female) member of your staff and that she is taking advantage of the situation.

COM 181 Basic Public Speaking Purpose Statement Learning Activity

**Used with permission of Professor J. Mike Dean, Humanities Division,
Madisonville Community College**

After covering topic selection concerns and general purpose of a speech, students are confronted with crafting a specific purpose statement. The specific purpose statement is one which should indicate precisely what the speaker wants to accomplish in that speech. Since they have already been introduced to the general purpose (that is 'to inform' or 'to persuade') and we have still to introduce the concept of a central idea statement or thesis, many students are confounded by the idea of a specific purpose statement. They have been assigned to read the chapter which covers all these concepts. I briefly cover the concept in class, focusing on how the statements are to be written. The basic criteria for an effective specific purpose statement are:

- Write the specific purpose with an appropriate infinitive phrase (one that matches the speech's general purpose)
- Limit the specific purpose to one distinct idea
- Make sure the specific purpose is not too vague or general
- Do not write it as a question
- Avoid figurative language in the specific purpose
- The specific purpose should be appropriate to the audience

After this, I break the class into small groups of three to four students. Each group is then given at least two specific purpose statements that are flawed. Their task is to identify the flaw or flaws and to rewrite the specific purpose so it would be appropriate to use assuming their class was the intended audience. Some examples of these flawed specific statements are:

1. Donate blood. (not an infinitive phrase—"To persuade the audience to donate blood" would be better)
2. What is obsessive compulsive disorder? (should not be a question)
3. To inform the audience about Thailand. (too general—what would be said about Thailand?)
4. To inform the audience about how to make popcorn. (not appropriate to a college aged audience who know one method for making popcorn)
5. To inform the audience about the growth of credit card fraud and the methods of sound financial planning (not limited to one idea)
6. To persuade the audience to boycott our stupid graduation ceremonies. (Includes a figurative term)

The groups are given ten minutes to accomplish their task and then each group reports the flaw they identified and how they repaired the flaw. This activity promotes analytical thinking: students analyze specific purpose statements relative to specific criteria. The activity also lends itself to scaffolding the purpose statement idea since the specific purpose statement becomes the basis of the outlines that they will use in preparing their speeches.

**MT 055 Pre-Algebra
Area & Perimeter Learning Activity**

**Used with permission of Professor Dan Schultz, Natural Sciences Division,
Madisonville Community College**

Instructions:

- 1) For each figure given (see attached sheet), measure the perimeter (or circumference) using the centimeter scale of your ruler (rulers will be provided). Record the results in the table below. You will have to be clever to measure the circle.
- 2) For each figure given, calculate the area using the formulas for the basic shapes found in your book. If a figure is not a basic shape, break it down into basic shapes and find the area of each piece. Sum the areas of each piece to get the total area. Record the results in the table below.
- 3) For each figure given, measure the area of each figure by overlaying the figure with the 1 square centimeter grid (transparent grid will be provided) and counting the number of squares. Record the results in the table below.
- 4) Compare the calculated areas to the measured areas. Discuss any errors you observe.

Figure	Measured Perimeter (cm)	Calculated Area (cm ²)	Measured Area (cm ²)
1			
2			
3			
4			
5			
6			

**Welding
Fabrication Learning Activity**

**Used with permission of Professor Reid Davis, Applied Technology Division,
Madisonville Community College**

An instructor on campus needs a projector stand for an overhead projector in the classroom. This creates a problem because of the high ceiling height (15 feet) of his classroom. A blueprint of the room layout has been provided to you.

The assignment is: Create a projector stand for the instructor.
Required steps to achieve the product are listed below. Each must be described and shown in the final product due in one week to the instructor.

- 1) Take measurements
- 2) Draw a blueprint of the needed projector stand
- 3) Consider construction of the projector stand using available material in the welding shop at present
- 4) Redesign projector stand due to restriction of material for construction
- 5) Consider possible conflicts during fabrication and mounting process
- 6) Re-measure and redesign blueprint
- 7) Fabricate and install the projector stand

*Examples of Critical Thinking are shown when the students have to troubleshoot and redesign the projector stand, taking into account materials and other conflicts.