What is Critical Thinking

The ability to apply, analyze, synthesize, and evaluate information and the disposition to apply these abilities to problem solving.
Why Critical Thinking

Almost always listed as one of the desirable outcomes of undergraduate education.
Agreement that college should help college students improve how they think.
Poor ability of North American students is viewed as a threat to our ability to remain a world leader in science and technology.
In California, there is a statewide general education requirement in critical thinking for all students in the 108 community colleges and 20 state universities.

Why Critical Thinking

In California, there is a statewide general education requirement in critical thinking for all students in the 108 community colleges and 20 state universities.

AACSB requirement!
Sample Thinking Skills

- Reading with high level of comprehension
- Providing support for a conclusion
- Understanding principles of likelihood and uncertainty
- Using analogies
- Understanding the difference between correlation and cause
- Evaluating evidence
- Planning a course of action

"Given our knowledge of cognitive development, it would be unrealistic to expect a huge gain in the thinking abilities of college students that can be attributable to one course that is a quarter or semester in length."

Goal is to produce students that will become better critical thinkers in the real-world business contexts in which students will find themselves employed.
Assessment Challenges

- Much of literature has to do with general critical thinking coursework and assessment
- Pre and post tests -- difficult for us to do
  - Testing beyond the classroom -- after graduation
  - Time constraints
- Content issues -- will be new to students and have to learn content before they can apply it in classroom assessment
Challenges make assessment of critical thinking learning nearly impossible outside of courses in critical thinking.

Content serves as a confounding variable.

What can be assessed?

- The ability of students to use critical thinking skills to solve business problems.
- Application of course content to identification and resolution of discipline-specific problems or issues.
Assessment in the Classroom

Course design -- critical component

- Content learning and assessment
  - Traditional content-related lecture and testing
- Application (critical thinking) learning and assessment
  - Content-related critical thinking processes
  - Simulations in which students have to apply concepts to the simulation environment
- Lab assignments
- Group projects
- Case studies
- Tests
Teaching Critical Thinking

- Content
- Uses of content
- Application of process to discipline-related problems.

Example: Statistics
- Typical course -- learning all the statistical methods
- Expand instruction/learning to:
  - Problem/question definition
  - Identifying correct method to solve problem or answer question.
  - Meaning of problem/question resolution.
Assessment Instruments

- Need to fit the critical-thinking learning objective
  - Case Studies
  - Group Projects
  - Tests --
    - Essay
    - Multiple Choice with Explanation -- Allows for different interpretations and for professors to assess the reasoning behind answers.
  - Simulations -- where simulated real-world situations can be used to assess students' ability to problem-solve -- assessment often built into the simulation.
Assessing -- Using Rubrics

- Development of rubrics is a learning tool for faculty -- what DO we expect from our students?
  - Critical thinking about critical thinking assessment!
  - Beyond "I know it when I see it"
  - Objective -- easier to explain (and defend) to students
- Clear distinctions between poor/good/excellent papers.
- Learning tools for students -- helps them understand what a good paper/answer is.
- Initially time consuming to develop
<table>
<thead>
<tr>
<th>Item</th>
<th>Failing</th>
<th>Poor</th>
<th>Acceptable</th>
<th>Exceptional</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Characteristics of the Industry</td>
<td>No identification of economic traits or characteristics of the industry (0).</td>
<td>Correctly identifies one or two characteristics but little detail is provided. (4)</td>
<td>Correctly identifies three or more characteristics and provides relevant detail. (6)</td>
<td>Correctly identifies four or more characteristics and provides relevant detail including importance for industry. (8)</td>
<td></td>
</tr>
<tr>
<td>Power of Buyers</td>
<td>Incorrect identification of relevant buyers and impact on industry. (0)</td>
<td>Correctly identifies one or two relevant buyers, but unclear or weak identification of factors that shape impact of buyers on industry. (2)</td>
<td>Correctly identifies relevant buyers and supports choices with identification of one factor that shapes impact of buyers on industry. (4)</td>
<td>Correctly identifies relevant buyers and supports choice with an identification of two or more factors that shape impact of buyers on industry. (6)</td>
<td></td>
</tr>
<tr>
<td>Power of Suppliers</td>
<td>Incorrect identification of relevant suppliers and impact on industry. (0)</td>
<td>Correctly identifies one or two relevant suppliers, but unclear or weak identification of factors that shape impact of suppliers on industry. (2)</td>
<td>Correctly identifies relevant suppliers and supports choices with an identification of one factor that shapes impact of suppliers on industry. (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strength of Rivalry</td>
<td>Incorrect assessment of rivalry and factors that drive industry rivalry. (0)</td>
<td>Correctly assesses rivalry, but unclear or weak discussion of factors that shape industry rivalry. (2)</td>
<td>Correctly assesses rivalry and provides a discussion of one factor that shapes industry rivalry. (4)</td>
<td>Correctly assesses rivalry and provides a discussion of two or more factors that shape industry rivalry. (6)</td>
<td></td>
</tr>
<tr>
<td>Strength of Substitutes</td>
<td>Incorrect identification of substitutes and impact on industry. (0)</td>
<td>Correctly identifies relevant substitutes, but unclear or weak discussion of factors that shape the impact of substitutes on industry. (2)</td>
<td>Correctly identifies relevant substitutes and supports choices with a discussion of one factor that shapes the impact of substitutes on industry. (4)</td>
<td>Correctly identifies relevant substitutes and supports choices with a discussion of two or more factors that shape the impact of substitutes on industry. (6)</td>
<td></td>
</tr>
<tr>
<td>Threat of Entry</td>
<td>Incorrect identification of entry threats and impact on industry. No discussion of entry barriers. (0)</td>
<td>Correctly identifies entry threats, but unclear or weak discussion of factors that impact the threat of entry. Mentions entry barriers, but limited discussion of impact. (2)</td>
<td>Correctly identifies entry threats and supports choices with a discussion of one factor that impacts the threat of entry. Mentions entry barriers and discusses impact. (4)</td>
<td>Correctly identifies entry threats and supports choices with a discussion of two or more factors that impact the threat of entry. Mentions entry barriers and discusses impact. (6)</td>
<td></td>
</tr>
<tr>
<td>Driving Forces Analysis</td>
<td>Incorrect identification of Driving Forces. Does not seem to understand the concept. (0)</td>
<td>Correct identification of one or two Driving Forces but unclear or weak discussion of impact. (2)</td>
<td>Correctly identifies two or more Driving Forces and provides some mention of impact. (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Success Factor Analysis</td>
<td>Incorrect identification of key factors for success of the industry. (0)</td>
<td>Correctly identifies one or two key success factors but no justification or detail is provided. (2)</td>
<td>Correctly identifies two or three key success factors and provides some relevant detail. (4)</td>
<td>Correctly identifies all the key success factors and their relevance for industry participants. (6)</td>
<td></td>
</tr>
</tbody>
</table>
# Sample Rubric

**MGMT 647 -- Final Paper/Take-Home Exam**

<table>
<thead>
<tr>
<th>Pts.</th>
<th>Criteria</th>
<th>Below Expectations</th>
<th>Meets Expectations</th>
<th>Exceeds Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>Summary of External and Internal Situation.</td>
<td>&lt; 20 points&lt;br&gt;Identifies and evaluates necessary information from the external and internal environments of the company.</td>
<td>20-22.5 points&lt;br&gt;Identifies many of the relevant factors in the external and internal. Accurately interprets information.</td>
<td>22.5-25 points&lt;br&gt;Identifies and discusses all the correct major relevant factors in the external environment. Correctly interprets information and its implications for the company.</td>
</tr>
<tr>
<td>40</td>
<td>Problem/Issue Analysis</td>
<td>&lt; 30 points&lt;br&gt;Does not identify the problem or issues, or identifies the wrong problems or issues.</td>
<td>30-35 points&lt;br&gt;Identifies the main problems or issues and some of the subsidiary, embedded or implicit aspects of the problem or issues.</td>
<td>36-40 points&lt;br&gt;Identifies main problem or issues and all of the subsidiary, embedded and implicit aspects of the problems, issues and assumptions.</td>
</tr>
<tr>
<td>75</td>
<td>Alternatives (Options)</td>
<td>&lt; 60 points&lt;br&gt;Develops courses of action not related to solving the problems or addressing issues. Does not identify decision criteria or criteria are not relevant. Limited discussion of pros and cons. Does not go beyond basic information.</td>
<td>60-67 points&lt;br&gt;Identifies multiple courses of action that reflect nuanced problem understanding and addresses all problem aspects. Describes pros and cons of each possible alternative. Goes beyond basic information and demonstrates creativity in approach.</td>
<td>67.5-75 Points&lt;br&gt;Identifies multiple courses of action that reflect nuanced problem understanding and addresses all problem aspects. Describes pros and cons of each possible alternative. Goes beyond basic information and demonstrates creativity in approach.</td>
</tr>
<tr>
<td>60</td>
<td>Recommendation(s)</td>
<td>&lt; 48 Points&lt;br&gt;Makes a recommendation that has little relationship to the problems or issues that were raised. Does not identify decision criteria.</td>
<td>48-53 Points&lt;br&gt;Makes recommendation and provides some justification based on the issues or problems. Identifies several decision criteria relevant to choosing among alternatives. Makes some reference to financial or implementation issues.</td>
<td>54-60 Points&lt;br&gt;Makes recommendations and justifies them based on fully addressing problems or issues. Provides full appreciation of the financial and implementation issues of recommendations. Identifies and justifies selection of all relevant decision criteria.</td>
</tr>
<tr>
<td>25</td>
<td>Matrices</td>
<td>&lt;20 Points&lt;br&gt;Matrices are incorrectly developed, have little thought or are missing. Weights and/or scores are illogical.</td>
<td>20-22.5 points&lt;br&gt;Matrices appear to be adequately prepared and used to generate alternatives and recommendations. Weights and scores are logical.</td>
<td>22.5-25 points&lt;br&gt;Matrices show nuanced understanding of company situation through weights and scores. Use of the matrices to generate and evaluate alternatives is thoughtful and creative.</td>
</tr>
</tbody>
</table>
Strategic Management

What this Course is About

Strategic Management Process
-- the process by which managers choose a set of strategies for a company that will allow it to achieve superior performance
Critical Thinking

Does anyone watch CSI or other police dramas?

“Evidence-based Decision-making”
Critical Thinking
(Analytical Thinking)

- Using evidence to identify strategic issues/problems, develop alternatives and make informed business decisions
- The evidence – situation analysis
  - External environment
    - Opportunities
    - Threats
  - Internal environment
    - Strengths
    - Weaknesses