Developing Your Critical Thinking Course

Part 2: Assessing Critical Thinking Skills

Examples of Critical Thinking Rubrics

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<table>
<thead>
<tr>
<th>Macro Criterion</th>
<th>No/Limited Proficiency (D&amp;E)</th>
<th>Some Proficiency (C)</th>
<th>Proficiency (B)</th>
<th>High Proficiency (A)</th>
<th>Rating (a,b,c,d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identifies &amp; Explains Issues</td>
<td>Fails to identify, summarize, or explain the main problem or question: Represents the issues inaccurately or inadequately.</td>
<td>Identifies main issues but does not summarize or explain them clearly or sufficiently</td>
<td>Successfully identifies and summarizes the main issues, but does not explain why/how they are problems or create questions</td>
<td>Clearly identifies and summarizes main issues and successfully explains why/how they are problems or questions; and identifies embedded or implicit issues, addressing their relationships to each other.</td>
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</tr>
<tr>
<td>2. Distinguishes Types of Claims</td>
<td>Fails to label correctly any of the factual, conceptual, and value dimensions of the problems and proposed solutions.</td>
<td>Successfully identifies some, but not all of the factual, conceptual, and value aspects of the questions and answers.</td>
<td>Successfully separates and labels all the factual, conceptual, and value claims</td>
<td>Clearly and accurately labels not only all the factual, conceptual, and value, but also those implicit in the assumptions and the implications of positions and arguments.</td>
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</tr>
<tr>
<td>3. Recognizes Stakeholders and Contexts</td>
<td>Fails accurately to identify and explain any empirical or theoretical contexts for the issues. Presents problems as having no connections to other conditions or contexts.</td>
<td>Shows some general understanding of the influences of empirical and theoretical contexts on stakeholders, but does not identify many specific ones relevant to situation at hand.</td>
<td>Correctly identifies all the empirical and the most of the influential contexts relevant to all the main stakeholders in the situation.</td>
<td>Not only correctly identifies all the empirical and theoretical contexts relevant to all the main stakeholders, but also finds minor stakeholders and contexts and shows the tension or conflicts of interests among them.</td>
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<tr>
<td>4. Considers Methodology</td>
<td>Fails to explain how/why/which specific methods of research are relevant to the kind of issue at hand.</td>
<td>Identifies some but not all methods required for dealing with the issue; does not explain why they are relevant or effective.</td>
<td>Successfully explains how/why/which methods are most relevant to the problem.</td>
<td>In addition to explaining how/why/which methods are typically used, also describes embedded methods and possible alternative methods of working on the problem.</td>
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</tr>
<tr>
<td>5. Frames Personal Responses and Acknowledges Other Perspectives</td>
<td>Fails to formulate and clearly express one’s own point of view, (or) fails to anticipate objections to his/her point of view, (or) fails to consider other perspectives and positions.</td>
<td>Formulates a vague and indecisive point of view, or anticipates minor but not major objections to his/her point of view, or considers weak but not strong alternative positions.</td>
<td>Formulates a clear and precise personal point of view concerning the issue, and seriously discusses its weaknesses as well as its strengths.</td>
<td>Not only formulates a clear and precise personal point of view, but also acknowledges objections and rival positions and provides convincing replies to these.</td>
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<tr>
<td>Micro Criteria</td>
<td>Quality</td>
<td>No/Limited Proficiency (D&amp;E)</td>
<td>Some Proficiency (C)</td>
<td>Proficiency (B)</td>
<td>High Proficiency (A)</td>
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<tr>
<td>6. Reconstructs Arguments</td>
<td>Falls to identify the major components of the main arguments at stake and to show their logical relations.</td>
<td>Identifies a few of the premises but confuses the conclusion of the main argument in support of the position under consideration (his or her own, or that of others)</td>
<td>Correctly analyzes the arguments and theories; restates its component propositions and reconstructs their relationships correctly.</td>
<td>Not only correctly reconstructs the main argument but does the same for subsidiary arguments and theories, and correctly identifies the kind or status of each of them.</td>
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<tr>
<td>7. Interprets Content</td>
<td>Falls to identify and choose between the possible meanings of the key terms and propositions included in the arguments and theories in use.</td>
<td>Clarifies the meaning of a few but far from all of the key terms and propositions involved.</td>
<td>Convincingly explains the meaning of all the key terms and main propositions involved in the arguments and theories involved.</td>
<td>Offers fine-grained and original interpretations of a crucial term or proposition involved in the issue.</td>
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</tr>
<tr>
<td>8. Evaluates Assumptions</td>
<td>Falls to identify and evaluate any of the important assumptions behind the claims and recommendations made.</td>
<td>Identifies some of the most important assumptions, but does not evaluate them for plausibility or clarity.</td>
<td>Identifies and evaluates all the important assumptions, but not the ones deeper in the background — the more abstract ones.</td>
<td>Not only identifies and evaluates all the important assumptions, but also some of the more hidden, more abstract ones.</td>
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<tr>
<td>9. Evaluates Evidence</td>
<td>Falls to identify data and information that counts as evidence for truth-claims and fails to evaluate its credibility.</td>
<td>Successfully identifies data and information that counts as evidence but fails to thoroughly evaluate its credibility.</td>
<td>Identified all important evidence and rigorously evaluates it.</td>
<td>Not only identifies and rigorously evaluates all important evidence offered, but also provides new data or information for consideration.</td>
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<tr>
<td>10. Evaluates Inferences</td>
<td>Falls to identify and explain mistakes in the reasoning of others and fails to avoid them in his or her own reasoning.</td>
<td>Successfully identifies and avoids some common mistakes of reasoning but misses less common ones, and does not explain why or how they are mistakes.</td>
<td>Identifies and avoids all mistakes of reasoning and explains some of them.</td>
<td>Not only identifies and avoids all mistakes of reasoning but gives clear explanations of why they are mistakes.</td>
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</tbody>
</table>
Guide to Rating Critical & Integrative Thinking
Washington State University, Fall 2006

For each of the seven criteria below, assess the work by:

a) circling specific phrases that describe the work, and writing comments
b) circling a numeric score

Note: A score of 4 represents competency for a student graduating from WSU.

1. Identifies, summarizes (and appropriately reformulates) the problem, question, or issue.

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<tr>
<th>Emerging</th>
<th>Developing</th>
<th>Mastering</th>
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<tbody>
<tr>
<td>Doesn't attempt to or fails to identify and summarize accurately.</td>
<td>Summarizes issue, though some aspects are incorrect or confused. Nuances and key details are missing or glossed over.</td>
<td>Clearly identifies the challenge and subsidiary, embedded, or implicit aspects of the issue. Identifies integral relationships essential to analyzing the issue.</td>
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Comments:

2. Identifies and considers the influence of context * and assumptions.

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<tr>
<td>Approach to the issue is in egocentric or socio-centric terms. Does not relate issue to other contexts (cultural, political, historical, etc.). Analysis is grounded in absolutes, with little acknowledgment of own biases. Does not recognize context or surface assumptions and underlying ethical implications, or does so superficially.</td>
<td>Presents and explores relevant contexts and assumptions regarding the issue, although in a limited way. Analysis includes some outside verification, but primarily relies on established authorities. Provides some recognition of context and consideration of assumptions and their implications.</td>
<td>Analyzes the issue with a clear sense of scope and context, including an assessment of audience. Considers other integral contexts. Analysis acknowledges complexity and bias of vantage and values, although may elect to hold to bias in context. Identifies influence of context and questions assumptions, addressing ethical dimensions underlying the issue.</td>
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Comments:

Contexts may include:

<table>
<thead>
<tr>
<th>Cultural/social Group, national, ethnic behavior/attitude</th>
<th>Scientific Conceptual, basic science, scientific method</th>
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<tbody>
<tr>
<td>Educational Schooling, formal training</td>
<td>Economic Trade, business concerns costs</td>
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<tr>
<td>Technological Applied science, engineering</td>
<td>Ethical Values</td>
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<tr>
<td>Political</td>
<td>Personal Experience</td>
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<td>Organizational or governmental</td>
<td>Personal observation, informal character</td>
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3. Develops, presents, and communicates **OWN** perspective, hypothesis or position.

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<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>Position or hypothesis is clearly inherited or adopted with little original consideration.</td>
<td>Position includes some original thinking that acknowledges, refutes, synthesizes or extends other assertions, although some aspects may have been adopted.</td>
<td>Position demonstrates ownership for constructing knowledge or framing original questions, integrating objective analysis and intuition.</td>
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<tr>
<td>Addresses a single source or view of the argument, failing to clarify the established position relative to one’s own.</td>
<td>Presents own position or hypothesis, though inconsistently.</td>
<td>Appropriately identifies own position on the issue, drawing support from experience, and information not available from assigned sources.</td>
</tr>
<tr>
<td>Fails to present and justify own opinion or forward hypothesis.</td>
<td>Presents and justifies own position without addressing other views, or does so superficially.</td>
<td>Clearly presents and justifies own view or hypothesis while qualifying or integrating contrary views or interpretations.</td>
</tr>
<tr>
<td>Position or hypothesis is unclear or simplistic.</td>
<td>Position or hypothesis is generally clear, although gaps may exist.</td>
<td>Position or hypothesis demonstrates sophisticated, integrative thought and is developed clearly throughout.</td>
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**Comments:**

4. Presents, assesses, and analyzes appropriate **supporting data/evidence.**

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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>No evidence of search, selection or source evaluation skills.</td>
<td>Demonstrates adequate skill in searching, selecting, and evaluating sources to meet the information need.</td>
<td>Evidence of search, selection, and source evaluation skills; notable identification of uniquely salient resources.</td>
</tr>
<tr>
<td>Repeats information provided without question or dismisses evidence without adequate justification.</td>
<td>Use of evidence is qualified and selective.</td>
<td>Examines evidence and its source; questions its accuracy, relevance, and completeness.</td>
</tr>
<tr>
<td>Does not distinguish among fact, opinion, and value judgments.</td>
<td>Discerns fact from opinion and may recognize bias in evidence, although attribution is inappropriate.</td>
<td>Demonstrates understanding of how facts shape but may not confirm opinion. Recognizes bias, including selection bias.</td>
</tr>
<tr>
<td>Confuses cause and correlation; presents evidence and ideas out of sequence.</td>
<td>Distinguishes causality from correlation, though presentation may be flawed.</td>
<td>Correlations are distinct from causal relationships between and among ideas. Sequence of presentation reflects clear organization of ideas, subordinating for importance and impact.</td>
</tr>
<tr>
<td>Data/evidence or sources are simplistic, inappropriate, or not related to topic.</td>
<td>Appropriate data/evidence or sources provided, although exploration appears to have been routine.</td>
<td>Information need is clearly defined and integrated to meet and exceed assignment, course or personal interests.</td>
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**Comments:**
5. Integrates issue using OTHER (disciplinary) perspectives and positions.

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- Deals with a single perspective and fails to discuss others' perspectives.
- Adopts a single idea or limited ideas with little question. If more than one idea is presented, alternatives are not integrated.
- Engages ideas that are obvious or agreeable. Avoids challenging or discomforting ideas.
- Treats other positions superficially or misrepresents them.
- Little integration of perspectives and little or no evidence of attending to others' views. No evidence of reflection or self-assessment.
- Begins to relate alternative views to qualify analysis.
- Rough integration of multiple viewpoints and comparison of ideas or perspectives. Ideas are investigated and integrated, but in a limited way.
- Engages challenging ideas tentatively or in ways that overstate the conflict. May dismiss alternative views hastily.
- Analysis of other positions is thoughtful and mostly accurate.
- Acknowledges and integrates different ways of knowing. Some evidence of reflection and/or self-assessment.
- Addresses others' perspectives and additional diverse perspectives drawn from outside information to qualify analysis.
- Fully integrated perspectives from variety of sources; any analogies are used effectively.
- Integrates own and others' ideas in a complex process of judgment and justification. Clearly justifies own view while respecting views of others.
- Analysis of other positions is accurate, nuanced, and respectful.
- Integrates different disciplinary and epistemological ways of knowing. Connects to career and civic responsibilities. Evidence of reflection and self-assessment.

Comments:

6. Identifies and assesses conclusions, implications, and consequences.

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- Falls to identify conclusions, implications, and consequences, or conclusion is a simplistic summary.
- Conclusions presented as absolute, and may attribute conclusion to external authority.
- Conclusions consider or provide evidence of consequences extending beyond a single discipline or issue. Presents Implications that may impact other people or issues.
- Presents conclusions as relative and only loosely related to consequences. Implications may include vague reference to conclusions.
- Identifies, discusses, and extends conclusions, implications, and consequences. Considers context, assumptions, data, and evidence. Qualifies own assertions with balance.
- Conclusions are qualified as the best available evidence within the context. Consequences are considered and integrated. Implications are clearly developed, and consider ambiguities.

Comments:
7. Communicates effectively.

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<tbody>
<tr>
<td>In many places, language obscures meaning.</td>
<td>In general, language does not interfere with communication.</td>
<td>Language clearly and effectively communicates ideas. May at times be nuanced and eloquent.</td>
</tr>
<tr>
<td>Grammar, syntax, or other errors are distracting or repeated. Little evidence of proofreading. Style is inconsistent or inappropriate.</td>
<td>Errors are not distracting or frequent, although there may be some problems with more difficult aspects of style and voice.</td>
<td>Errors are minimal. Style is appropriate for audience.</td>
</tr>
<tr>
<td>Work is unfocused and poorly organized; lacks logical connection of ideas. Format is absent, inconsistent or distracting.</td>
<td>Basic organization is apparent; transitions connect ideas, although they may be mechanical. Format is appropriate although at times inconsistent.</td>
<td>Organization is clear; transitions between ideas enhance presentation. Consistent use of appropriate format. Few problems with other components of presentation.</td>
</tr>
<tr>
<td>Few sources are cited or used correctly.</td>
<td>Most sources are cited and used correctly.</td>
<td>All sources are cited and used correctly, demonstrating understanding of economic, legal and social issues involved with the use of information.</td>
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Comments:

Overall Rating:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score</th>
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<tbody>
<tr>
<td>1. Identify problem, question, or issue</td>
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<tr>
<td>2. Consider context and assumptions</td>
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<tr>
<td>3. Develop own position or hypothesis</td>
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<tr>
<td>4. Present and analyze supporting data</td>
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<tr>
<td>5. Integrate other perspectives</td>
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<tr>
<td>6. Identify conclusions and implications</td>
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<tr>
<td>7. Communicate effectively</td>
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</table>

Comments:
CRITICAL THINKING VALUE RUBRIC
for more information, please contact val rubric@assu.org

The VALUE rubrics were developed by teams of faculty experts representing colleges and universities across the United States through a process that examined many existing campus rubrics and related documents for each learning outcome and incorporated additional feedback from faculty. The rubrics articulate fundamental criteria for each learning outcome, with performance descriptors demonstrating progressively more sophisticated levels of attainment. The rubrics are intended for institutional-level use in evaluating and discussing student learning, not for grading. The core expectations articulated in all 15 of the VALUE rubrics can and should be translated into the language of individual campuses, disciplines, and even courses. The utility of the VALUE rubrics is to position learning at all undergraduate levels within a basic framework of expectations such that evidence of learning can by shared nationally through a common dialog and understanding of student success.

Definition
Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

Framing Language
This rubric is designed to be transdisciplinary, reflecting the recognition that success in all disciplines requires habits of inquiry and analysis that share common attributes. Further, research suggests that successful critical thinkers from all disciplines increasingly need to be able to apply those habits in various and changing situations encountered in all walks of life.

This rubric is designed for use with many different types of assignments and the suggestions here are not an exhaustive list of possibilities. Critical thinking can be demonstrated in assignments that require students to complete analyses of text, data, or issues. Assignments that cut across presentation modes might be especially useful in some fields. If insight into the process components of critical thinking (e.g., how information sources were evaluated regardless of whether they were included in the product) is important, assignments focused on student reflection might be especially illuminating.

Glossary
The definitions that follow were developed to clarify terms and concepts used in this rubric only.

- Ambiguity: Information that may be interpreted in more than one way.
- Assumptions: Ideas, conditions, or beliefs (often implicit or unstated) that are "taken for granted or accepted as true without proof." (quoted from www.dictionaryreference.com/browse/assumptions)
- Context: The historical, ethical, political, cultural, environmental, or circumstantial settings or conditions that influence and complicate the consideration of any issues, ideas, artifacts, and events.
- Literal meaning: Interpretation of information exactly as stated. For example, "she was green with envy" would be interpreted to mean that her skin was green.
- Metaphor: Information that is (intended to be) interpreted in a non-literal way. For example, "she was green with envy" is intended to convey an intensity of emotion, not a skin color.
**Definition**

Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (full on) level performance.

<table>
<thead>
<tr>
<th>Explanation of issues</th>
<th>Capstone 4</th>
<th>Milestones 3</th>
<th>Milestones 2</th>
<th>Benchmark 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue/ problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.</td>
<td>Issue/ problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.</td>
<td>Issue/ problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.</td>
<td>Issue/ problem to be considered critically is stated without clarification or description.</td>
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| Evidence | Selecting and using information to investigate a point of view or conclusion | Information is taken from source(s) with enough interpretation/evaluation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned thoroughly. | Information is taken from source(s) with enough interpretation/evaluation to develop a coherent analysis or synthesis. Viewpoints of experts are subject to questioning. | Information is taken from source(s) without any interpretation/evaluation. Viewpoints of experts are taken as fact, without question. |

| Influence of context and assumptions | Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position. | Identifies own and others' assumptions and several relevant contexts when presenting a position. | Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa). | Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position. |

| Student's position (perspective, thesis/hypothesis) | Specific position (perspective, thesis/hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position (perspective, thesis/hypothesis). | Specific position (perspective, thesis/hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis). | Specific position (perspective, thesis/hypothesis) is stated, but is simplistic and obvious. | Specific position (perspective, thesis/hypothesis) is stated, but is simplistic and obvious. |

<p>| Conclusions and related outcomes (implications and consequences) | Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order. | Conclusion is logically tied to a range of information, including opposing viewpoints. Related outcomes (consequences and implications) are identified clearly. | Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly. | Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified. |</p>
<table>
<thead>
<tr>
<th>Performance Pattern 0</th>
<th>Performance Pattern 1</th>
<th>Performance Pattern 2</th>
<th>Performance Pattern 3</th>
<th>Performance Pattern 4</th>
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</thead>
<tbody>
<tr>
<td>&quot;Confused Fact Finder&quot;</td>
<td>&quot;Biased Jumper&quot;</td>
<td>&quot;Perpetual Analyzer&quot;</td>
<td>&quot;Pragmatic Performer&quot;</td>
<td>&quot;Strategic Reviser&quot;</td>
</tr>
<tr>
<td>Identify relevant information</td>
<td>Identifies facts, definitions, and/or experts' opinions.</td>
<td>Explores a wide range of relevant information</td>
<td>Focuses on the most important relevant information</td>
<td>Develops viable strategies for generating important relevant information over time</td>
</tr>
<tr>
<td>Recognize and address uncertainties</td>
<td>Identifies at least one reason for temporary uncertainty</td>
<td>Identifies at least one reason for significant and permanent uncertainty</td>
<td>Addresses significant and permanent uncertainties when interpreting information</td>
<td>Identifies and discusses the significance of the most important uncertainties</td>
</tr>
<tr>
<td>Integrate multiple perspectives and clarify assumptions</td>
<td>Acknowledges more than one potential solution, approach, or viewpoint</td>
<td>Analyzes information from multiple perspectives, including assumptions and alternative objectives</td>
<td>Provides reasonable and substantive justification for assumptions used in analysis</td>
<td>Argues convincingly using a complex, coherent discussion of own perspective; Articulates strengths and weaknesses of position</td>
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<tr>
<td>Interpret and organize information</td>
<td>Uses evidence logically to support a point of view; Correctly applies concepts/theories/techniques</td>
<td>Qualitatively interprets information and develops meaningful categories for analysis</td>
<td>Preserves problem complexity, but emphasizes the most important and/or most relevant and reliable information</td>
<td>Systematically re-interprets information as circumstances change or new information becomes available</td>
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<tr>
<td>Use guidelines or principles to judge objectively across options</td>
<td>Avoids reaching a biased conclusion</td>
<td>Maintains objectivity while establishing reasonable priorities for reaching a well-founded conclusion</td>
<td>Uses a systematic process of critical inquiry to build a solution; Articulates how problem solving approach and criteria can be refined, leading to better solutions or greater confidence over time</td>
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</tr>
<tr>
<td>Communicate and implement conclusions</td>
<td>Appropriately tailors communication or implementation plans to the setting and audience</td>
<td>Provides appropriate information to motivate and engage others in long-term strategies</td>
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</tr>
<tr>
<td>Address solution limitations</td>
<td>Focuses on most efficient ways to address limitations or to gather additional information</td>
<td>Articulates solution limitations as a natural part of addressing open-ended problems</td>
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<tr>
<td>Engage in continuous improvement</td>
<td>Identifies uncertainties and limitations as opportunities for continuous improvement; Engages in lifelong learning</td>
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Overall Approach to the Problem

Proceeds as if goal is to find the single/correct answer
Proceeds as if goal is to stack up evidence and information to support own conclusion
Proceeds as if goal is to establish an unbiased, balanced view of evidence and information from different points of view
Proceeds as if goal is to come to a well-founded conclusion based on objective consideration of priorities across viable alternatives
Proceeds as if goal is to strategically construct knowledge, to move toward better conclusions or greater confidence in conclusions as the problem is addressed over time


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### Steps for Better Thinking Rubric

<table>
<thead>
<tr>
<th>Steps for Better Thinking</th>
<th>Less Complex Performance Patterns</th>
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<tbody>
<tr>
<td><strong>SKILLS</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Step 1: IDENTIFY</strong></td>
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</tr>
<tr>
<td>A—Identity and use relevant information</td>
<td>&quot;Confused Fact-Finder&quot; Performance Pattern 6—How performance might appear when Step 1, 2, 3, and 4 skills are weak</td>
<td>&quot;Strategic Re-Visioning&quot; Performance Pattern 4—How performance might appear when one has strong Step 1, 2, 3, and 4 skills</td>
</tr>
<tr>
<td>B—Articulate complex decisions related to uncertainties</td>
<td>&quot;Biased Jumper&quot; Performance Pattern 1—How performance might appear when Step 1 skills are adequate, but Step 2, 3, and 4 skills are weak</td>
<td>&quot;Pragmatic Performer&quot; Performance Pattern 3—How performance might appear when Step 1, 2, and 3 skills are adequate, but Step 4 skills are weak</td>
</tr>
<tr>
<td>C—Identifies at least one reason for significant and enduring uncertainty</td>
<td>&quot;Perpetual Analyzer&quot; Performance Pattern 2—How performance might appear when Step 1, 2, and 3 skills are adequate, but Step 4 skills are weak</td>
<td>A4—Same as A3 PLUS includes viable strategies for GENERATING new information to address limitations</td>
</tr>
<tr>
<td><strong>Step 2: EXPLORE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D—Performs as if goal is to find the single, &quot;correct&quot; answer</td>
<td>A5—Uses range of carefully evaluated, relevant information</td>
<td>A4—Same as A3 PLUS includes viable strategies for GENERATING new information to address limitations</td>
</tr>
<tr>
<td>E—Integrates multiple perspectives to create a meaningful organization</td>
<td>A6—Uses very limited information, primarily &quot;facts,&quot; definitions, or expert opinions</td>
<td>B4—Exhibits complex awareness of ways to minimize uncertainties in coherent, ongoing process of inquiry</td>
</tr>
<tr>
<td>F—Fails to adequately address alternative viewpoints in implementation plans and communications; provides insufficient information or motivation for audience to adequately understand alternatives and complexity</td>
<td>C1—Acknowledges more than one potential solution, approach, or viewpoint; does not acknowledge own assumptions or biases</td>
<td>C3—Evaluates information using general principles that allow comparisons across viewpoints; adequately justifies assumptions</td>
</tr>
<tr>
<td>G—Does not acknowledge significant limitations beyond temporary uncertainty; next steps articulated as finding the &quot;right&quot; answer (often by experts)</td>
<td>C2—Interprets information superficially as either supporting or not supporting a point of view; ignores relevant information that disagrees with own perspective; fails to sufficiently break down the problem</td>
<td>D3—Focuses analyses on the most important information based on reasonable assumptions about relative importance; organizes information using criteria that apply across different viewpoints and allow for qualitative comparisons</td>
</tr>
<tr>
<td>H—Adopts an overall approach to the problem.</td>
<td>C3—Evaluates information using general principles that allow comparisons across viewpoints; adequately justifies assumptions</td>
<td>D4—Same as D3 PLUS systematically reinterprets evidence as new information is generated over time</td>
</tr>
</tbody>
</table>


*Shaded cells most closely related to "step 6" model. Performance descriptions to the left of a shaded cell characterize skill weaknesses. Performance descriptions to the right of a shaded cell characterize skill strengths.*
Hello everyone,

Thanks to those of you who participated in my webinar on December 11. Unfortunately, there were some problems with the webinar recording, so I had to re-record it before posting to the Internet. I have now finished the re-recording and have divided the webinar into 7 parts for posting on YouTube. You can access the videos by searching "WolcottLynch" on the YouTube web site, or by clicking on the following link:

http://www.youtube.com/channel/UCV4Qjj0owlw/zlW3LwQuug

The videos are listed in reverse order on the page. (I didn’t think about that before loading them!) Here is a list of the titles:

StepsForBetterThinking_FivePatterns_Introduction (Part 1 of 7)
StepsForBetterThinking_FivePatterns_Pattern0 (Part 2 of 7)
StepsForBetterThinking_FivePatterns_Pattern1 (Part 3 of 7)
StepsForBetterThinking_FivePatterns_Pattern2 (Part 4 of 7)
StepsForBetterThinking_FivePatterns_Pattern3 (Part 5 of 7)
StepsForBetterThinking_FivePatterns_Pattern4 (Part 6 of 7)
StepsForBetterThinking_FivePatterns_Conclusion (Part 7 of 7)

Before viewing the videos, you might want to access a one-page summary of the five cognitive patterns. It can be downloaded from my web site in PDF format at:


Please feel free to pass this information along to other people, and let me know if you have questions or comments.

I hope to conduct future webinars, but I need to investigate alternative services. The GoToWebinar service I used last time had some recording problems that I would like to avoid in the future. If you have any suggestions for other webinar services, please let me know.

Thanks, and I hope your new year is off to a good start,

Susan

Susan K. Wolcott, PhD, CPA, CMA
Thought Leader, CA School of Business, [www.casb.com](http://www.casb.com)
605 175th Place NE
Bellevue, WA 98008 USA
1-425-830-3962

Habits aren’t destiny — they can be ignored, changed or replaced. But it’s also true that once the loop is established and a habit emerges, your brain stops fully participating in decision-making. So unless you deliberately fight a habit — unless you find new cues and rewards — the old pattern will unfold automatically.

The SUNY Trustees learning outcomes for critical thinking focus on arguments but offer little guidance as to their nature or variety. We conceive of an argument as any piece of reasoning aimed at deciding what to believe or what to do. On this conception, we are engaged in argument whenever we try to decide what we ought to think about some topic, whether the topic concerns the past, the present or the future, and whenever we try to decide how best to achieve some practical goal. Arguments thus include designing an experiment to test an hypothesis, deciding how best to measure some phenomena, defending a view about the nature and value of free will, explaining the causes of some historical event, predicting the outcome of some physical process, evaluating a performance or work of art, and balancing the costs and benefits of some public policy. These otherwise very different activities are unified by the fact that doing them well requires thinking critically both about the subject matter at hand and about the decision process itself. We designed our rubric to capture at an abstract level what these decisions have in common when they are all well made.

The word "argument" in the rubric is thus to be understood as applying to a wide variety of different kinds of activities aimed at deciding what to believe or to do. The word "premise" applies to the evidence or grounds on which a decision or recommendation is based. Thus, the results of an experiment or measurement may be the premises for a scientific conclusion or a policy recommendation, knowledge of initial conditions and laws of nature may be the premises for a prediction, and an evaluation of a dance may be premised on aesthetic criteria. In all such cases, thinking critically requires distinguishing the question whether those premises are correct or credible from the question whether they provide sufficient support to accept the conclusion.

The rubric does not attempt to define when the premises of an argument are "acceptable" or when they provide "sufficient" evidence to support the conclusion. This is a notoriously difficult task, especially since standards of acceptability and sufficiency seem to vary from one discipline to another and from one historical period to another. While it is important for students to be aware of the ideal of a logically valid argument, where the truth of the premises would guarantee that of the conclusion, this ideal provides little practical guidance in ordinary life.

The first learning outcome concerns a student's critique of some argument and the second concerns a student's attempt to develop one. In both, the word "argument" is meant to include any kind of reasoning aimed at deciding what to believe or do. Thus, the student's critique may target some specific policy recommendation or some historical explanation, and the argument developed may be a proposal to test some hypothesis or a defense of some philosophical view. In principle, one piece of work would suffice so long as it required the student to both critique an argument and construct an argument. But a portfolio including one piece of work analyzing and evaluating an argument and another supporting and defending some conclusion would perhaps be more practical.

1. Students will identify, analyze, and evaluate arguments as they occur in their own and others' work.

**Exceeding:** The student's work

1. Identifies the target argument(s) and clearly distinguishes it from any extraneous elements such as expressions of opinion and descriptions of events.
2. Carefully articulates the argument's conclusion, clearly distinguishes it from its premises and identifies most relevant definitions and/or hidden assumptions.
3. Clearly and correctly assesses whether the argument's premises provide sufficient logical support for the conclusion, independently of whether the premises are true.
4. Clearly and correctly assesses the reasonableness of the premises, including the credibility of their
sources (e.g., observation, testimony, measurement, experiment, etc.), independently of whether the premises support the conclusion.

Meeting: The student's work

1. Identifies the target argument(s).
2. Distinguishes the argument's conclusion from its premises and some effort is made to identify relevant definitions and/or hidden assumptions.
3. Correctly assesses whether the argument's premises provide sufficient logical support for the conclusion, independently of whether the premises are true.
4. Correctly assesses the reasonableness of the premises, including the credibility of their sources, independently of whether they support the conclusion.

Approaching: The student's work

1. Identifies the target argument(s) but includes extraneous elements such as expressions of opinion and descriptions of events.
2. Distinguishes the argument's conclusion from its premises, but little effort is made to identify relevant definitions and/or hidden assumptions.
3. Attempts to assess whether the argument's premises provide sufficient logical support for the conclusion, independently of whether the premises are true.
4. Attempts to assess the reasonableness of the argument's premises, but little effort is made to consider the credibility of the premises' sources.

Not Meeting: The student's work

1. Does not isolate the argument(s) from extraneous elements in the text.
2. Does not identify the argument's conclusion or distinguish it sufficiently from the premises and little or no effort is made to identify relevant definitions or hidden assumptions.
3. Does not address whether the argument's premises provide sufficient logical support for the conclusion, independently of the truth of the conclusion.
4. Does not consider whether the premises are reasonable to believe, independently of whether they support the conclusion or else no effort is made to evaluate the credibility of the premises' sources.

2. Students will develop well-reasoned arguments.

Exceeding: The student's work

1. Develops a clearly articulated argument, using evidence and/or systematic logical reasoning in support of a conclusion or point of view.
2. Identifies relevant qualifications or objections or alternative points of view and prioritizes evidence and/or reasons in support of the conclusion.
3. Describes the broader relevance, significance or context of the issue and/or applies the reasoning to a novel problem.

Meeting: The student's work

1. Presents an argument using evidence and/or logical reasoning in support of a point of view.
2. Identifies some qualifications or objections or alternative points of view.
3. Describes the broader relevance, significance or context and/or applies the reasoning to a novel problem.

Approaching: The student's work

1. States a conclusion or point of view but does not organize the evidence or reasons in a logically adequate way.
2. Does not clearly identify or respond to relevant objections or alternative points of view.
3. Does not adequately describe the broader relevance or significance or apply the reasoning to a novel problem.
problem.

**Does not meet:** The student's work

1. Does not clearly state a conclusion or point of view or else little or no supporting reasoning or evidence is presented.
2. Makes no attempt to recognize or respond to objections or alternative points of view.
3. Makes no attempt to describe the broader relevance or significance or to apply the reasoning to a novel problem.

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## RUBRIC FOR ANALYTIC SCORING OF CRITICAL THINKING

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Superior</td>
<td>Identifies appropriate main issue and describes it accurately, selects key component points, recognizes priorities among details in relation to given question, picks up unstated implications</td>
<td>Shows connections among key points with a visible structure (diagram, outline, etc.), indicates contradictions and continuities, shows cause &amp; effect relationships, demonstrates sound logic leading toward a generalization.</td>
<td>Clearly states conclusion or hypothesis, shows how it emerges from the evidence, demonstrates its relationship to the given question.</td>
<td>Appropriately assesses conclusion or hypothesis in terms of its reliability and its need for further evidence, assesses implications of the conclusion/hypothesis within a larger context</td>
</tr>
<tr>
<td>Proficient</td>
<td>Identifies appropriate main issue and selects component points, does not recognize some priorities among details in relation to given question</td>
<td>Identifies most connections among key points, shows the structure of an argument based on key points, sketches out appropriate logic</td>
<td>States conclusion or hypothesis, shows how it emerges from the evidence, answers the given question</td>
<td>Assesses conclusion or hypothesis in terms of its own strength and mentions appropriate larger implications</td>
</tr>
<tr>
<td>Essential</td>
<td>Inadequately identifies the main issue, some ambiguity in description of issue, identifies few of the key component points</td>
<td>Identifies some key points, creates some order from details, but it is incomplete</td>
<td>Indicates conclusion or hypothesis, answers the question but explanation is weak and not supported by evidence</td>
<td>Indicates weak but relevant reflection on strength and implications of conclusion or hypothesis</td>
</tr>
<tr>
<td>In progress</td>
<td>Identifies inappropriate main issue or none at all, describes issue inaccurately, fails to identify component points, loses focus on given question.</td>
<td>Ignores key points or shows inability to manipulate them, shows confusion about relationships among key points, uses faulty logic, fails to create order from details.</td>
<td>Proposes no comprehensible conclusion or hypothesis, wanders from the given question.</td>
<td>Fails to assess conclusion, raises no appropriate additional questions, fails to place the argument within a relevant larger context.</td>
</tr>
<tr>
<td>Scoring Level</td>
<td>Interpretation</td>
<td>Analysis &amp; Evaluation</td>
<td>Presentation</td>
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<tr>
<td>4 - Accomplished</td>
<td>Analyzes insightful questions</td>
<td>Examines conclusions</td>
<td>Argues succinctly</td>
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<td></td>
<td>Rejects bias</td>
<td>Uses reasonable judgment</td>
<td>Discusses issues thoroughly</td>
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<td>Critiques context</td>
<td>Discriminates rationally</td>
<td>Shows intellectual honesty</td>
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<td></td>
<td>Examines inconsistencies</td>
<td>Synthesizes data</td>
<td>Justifies decisions</td>
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<tr>
<td></td>
<td>Values information</td>
<td>Views information critically</td>
<td>Assimilates information</td>
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<tr>
<td>3 - Competent</td>
<td>Asks insightful questions</td>
<td>Formulates conclusions</td>
<td>Argues clearly</td>
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<td></td>
<td>Detects bias</td>
<td>Recognizes arguments</td>
<td>Identifies issues</td>
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<td></td>
<td>Categorizes content</td>
<td>Notices differences</td>
<td>Attributes sources naturally</td>
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<tr>
<td></td>
<td>Identifies inconsistencies</td>
<td>Evaluates data</td>
<td>Suggests solutions</td>
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</tr>
<tr>
<td></td>
<td>Recognizes context</td>
<td>Seeks out information</td>
<td>Incorporates information</td>
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</tr>
<tr>
<td>2 - Developing</td>
<td>Identifies some questions</td>
<td>Identifies some conclusions</td>
<td>Misconstructs arguments</td>
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<tr>
<td></td>
<td>Notes some bias</td>
<td>Sees some arguments</td>
<td>Generalizes issues</td>
<td></td>
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<td></td>
<td>Recognizes basic content</td>
<td>Identifies some differences</td>
<td>Cites sources</td>
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<td></td>
<td>States some inconsistencies</td>
<td>Paraphrases data</td>
<td>Presents few options</td>
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<tr>
<td></td>
<td>Selects sources adequately</td>
<td>Assumes information valid</td>
<td>Overlooks some information</td>
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</tr>
<tr>
<td>1 - Beginning</td>
<td>Fails to question data</td>
<td>Fails to draw conclusions</td>
<td>Omits argument</td>
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<tr>
<td></td>
<td>Ignores bias</td>
<td>Sees no arguments</td>
<td>Misrepresents issues</td>
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<td></td>
<td>Misses major content areas</td>
<td>Overlooks differences</td>
<td>Excludes data</td>
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<td></td>
<td>Detects no inconsistencies</td>
<td>Repeats data</td>
<td>Draws faulty conclusions</td>
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<tr>
<td></td>
<td>Chooses biased sources</td>
<td>Omits research</td>
<td>Slavos intellectual dishonesty</td>
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</tbody>
</table>
The Critical Thinking Rubric for HR 403, Leadership and Group Dynamics

Critical thinking and writing are skills essential to effective communication, problem solving, and analysis in the social sciences, and, indeed, to any profession and field of study. To attain these abilities requires ongoing practice and critical review by peers, mentors, and perhaps most importantly, yourself. The forum and format of your work at Brenau University can be evaluated for critical thinking skills can vary widely, ranging from informal dialogues to formal, graded research projects. In any event, the same fundamental principles will assist you to create tighter, better reasoned, and more compelling analyses and arguments. This rubric represents a brief overview of the main points to bear in mind as you prepare one of the topics for your written topic presentations and classroom oral presentations. A written topic presentation which shows critical thinking includes the following seven criteria as it-

1) Identifies and summarizes the problem/question at issue (and/or the source's position).

<table>
<thead>
<tr>
<th>Scant</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Substantially Developed</th>
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<td></td>
<td>Does not identify and summarize the problem, is confused or identifies a different and inappropriate problem. Does not identify or is confused by the issue, or represents the issue inaccurately.</td>
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<td>Identifies the main problem and subsidiary, embedded, or implicit aspects of the problem, and identifies them clearly, addressing their relationships to each other. Identifies not only the basics of the issue, but recognizes nuances of the issue.</td>
</tr>
</tbody>
</table>

2) Identifies and presents the STUDENT'S OWN perspective and position as it is important to the analysis of the issue.

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<tr>
<th>Scant</th>
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<td></td>
<td>Addresses a single source or view of the argument and fails to clarify the established or presented position relative to one's own. Fails to establish other critical distinctions.</td>
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<td>Identifies, appropriately, one's own position on the issue, drawing support from experience, and information not available from assigned sources.</td>
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</tbody>
</table>

3) Identifies and considers OTHER salient perspectives and positions that are important to the analysis of the issue.

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<tr>
<th>Scant</th>
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<th>Substantially Developed</th>
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<td>Deals only with a single perspective and fails to discuss other possible perspectives, especially those salient to the issue.</td>
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<td>Addresses perspectives noted previously, and additional diverse perspectives drawn from outside information.</td>
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</tbody>
</table>

4) Identifies and assesses the key assumptions.

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<tr>
<th>Scant</th>
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<th>5</th>
<th>Substantially Developed</th>
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<td></td>
<td>Does not surface the assumptions and ethical issues that underlie the issue, or does so superficially.</td>
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<td>Identifies and questions the validity of the assumptions and addresses the ethical dimensions that underlie the issue.</td>
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</table>

5) Identifies and assesses the quality of supporting data/evidence and provides additional data/evidence related to the issue.

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<th>Scant</th>
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<th>Substantially Developed</th>
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<td></td>
<td>Merely repeats information provided, taking it as truth, or denies evidence without adequate justification. Confuses associations and correlations with cause and effect. Does not distinguish between fact, opinion, and value judgments.</td>
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<td></td>
<td>Examines the evidence and source of evidence; questions its accuracy, precision, relevance, completeness. Observes cause and effect and addresses existing or potential consequences. Clearly distinguishes between fact, opinion and acknowledges value judgements.</td>
</tr>
</tbody>
</table>

17
6) Identifies and considers the influence of the contexts* on the issue.

<table>
<thead>
<tr>
<th>Scant</th>
<th>Substantially Developed</th>
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<tbody>
<tr>
<td>Discusses the problem only in egocentric or solocentric terms, does not present the problem as having connections to other contexts.</td>
<td>Analyzes the issue with a clear sense of scope and context, including an assessment of the audience of the analysis. Considers other pertinent contexts.</td>
</tr>
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</table>

7) Identifies and assesses conclusions, implications, and consequences.

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<tr>
<th>Scant</th>
<th>Substantially Developed</th>
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<tbody>
<tr>
<td>Fails to identify conclusions, implications, and consequences of the issue or the key relationships between the other elements of the problem, such as context, implications, assumptions, or data and evidence.</td>
<td>Identifies and discusses conclusions, implications, and consequences considering context, assumptions, data, and evidence. Objectively reflects upon their own assertions.</td>
</tr>
</tbody>
</table>

*Contexts for consider: cultural/social, scientific, educational, economic, technological, ethical, political, personal experience.
Critical Thinking Rubric

“Critical thinking” can mean many things. For this assignment, the CCC Assessment Team is interested in how you draw meaning from information. We’re looking for evidence that you can work effectively with each of the modes of thought listed as A-D below. Next to each mode, you can see the scoring guide that we will use to assess each paper (4 is high and 1 is low). By the time these scores are assigned, your paper will be completely anonymous, so these scores cannot affect your grade or transcript in any way. Meanwhile, your teacher will explain how your work will be evaluated for your course.

<table>
<thead>
<tr>
<th>A. GIVEN</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observes and describes given information in relation to a question</td>
<td>Identifies appropriate main issue and describes it accurately, selects key component points, recognizes priorities among details in relation to given question, picks up unstated implications.</td>
<td>Identifies inappropriate main issue or none at all, describes issue inaccurately, fails to identify key component points, loses focus on given question.</td>
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<thead>
<tr>
<th>B. WHEREAS</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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<tbody>
<tr>
<td>Analyzes the given material and shows structure of an argument</td>
<td>Shows connections among key points with a visible structure (diagram, outline, etc.), indicates contradictions and continuities, shows cause &amp; effect relationships, demonstrates sound logic leading toward a generalization.</td>
<td>Ignores key points or shows inability to manipulate them, shows confusion about relationships among key points, uses faulty logic, fails to create order from details.</td>
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<tr>
<th>C. THEREFORE</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>Responds to question with conclusion or hypothesis.</td>
<td>Clearly states conclusion or hypothesis, shows how it emerges from the evidence, demonstrates its relationship to the given question.</td>
<td>Proposes no comprehensible conclusion or hypothesis, wanders from the given question.</td>
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</table>

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<thead>
<tr>
<th>D. AND SO...</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluates conclusion or hypothesis within relevant context.</td>
<td>Appropriately assesses conclusion or hypothesis in terms of reliability and further evidence needed, assesses external implications of the conclusion/hypothesis within a larger context.</td>
<td>Fails to assess conclusion, raises no additional questions, fails to place the argument within a relevant larger context.</td>
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</table>
## Holistic Critical Thinking Scoring Rubric

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
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</thead>
</table>
| 4     | Consistently does all or almost all of the following:  
- Accurately interprets evidence, statements, graphics, questions, etc.  
- Identifies the salient arguments (reasons and claims) pro and con.  
- Thoughtfully analyzes and evaluates major alternative points of view.  
- Draws warranted, judicious, non-fallacious conclusions.  
- Justifies key results and procedures, explains assumptions and reasons.  
- Fair-mindedly follows where evidence and reasons lead. |
| 3     | Does most or many of the following:  
- Accurately interprets evidence, statements, graphics, questions, etc.  
- Identifies relevant arguments (reasons and claims) pro and con.  
- Offers analyses and evaluations of obvious alternative points of view.  
- Draws warranted, non-fallacious conclusions.  
- Justifies some results or procedures, explains reasons.  
- Fair-mindedly follows where evidence and reasons lead. |
| 2     | Does most or many of the following:  
- Misinterprets evidence, statements, graphics, questions, etc.  
- Fails to identify strong, relevant counter-arguments.  
- Ignores or superficially evaluates obvious alternative points of view.  
- Draws unwarranted or fallacious conclusions.  
- Justifies few results or procedures, seldom explains reasons.  
- Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions. |
| 1     | Consistently does all or almost all of the following:  
- Offers biased interpretations of evidence, statements, graphics, questions, information, or the points of view of others.  
- Fails to identify or hastily dismisses strong, relevant counter-arguments.  
- Ignores or superficially evaluates obvious alternative points of view.  
- Argues using fallacious or irrelevant reasons, and unwarranted claims.  
- Does not justify results or procedures, nor explain reasons.  
- Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.  
- Exhibits close-mindedness or hostility to reason. |

Permission is hereby granted to students, faculty, staff, or administrators at public or nonprofit educational institutions for unlimited duplication of the critical thinking scoring rubric, rating form, or instructions herein for local teaching, assessment, research, or other educational and noncommercial uses, provided that no part of the scoring rubric is altered and that "Facione and Facione" are cited as authors. (FAF49:R4:2:962694) Retrieved on 4/21/03 from <http://www.insightassessment.com/pdf_file/rubric.pdf>.
Instructions for Using the Holistic Critical Thinking Scoring Rubric

1. Understand the Construct

This four level rubric treats critical thinking as a set of cognitive skills supported by certain personal dispositions. To reach a judicious, purposive judgment a good critical thinker engages in analysis, interpretation, evaluation, inference, explanation, and meta-cognitive self-regulation. The disposition to pursue fair-mindedly and open-mindedly the reasons and evidence wherever they lead is crucial to reaching sound, objective decisions and resolutions to complex, ill-structured problems. So are the other critical thinking dispositions, such as systematicity, reasoning self-confidence, cognitive maturity, analyticity, and inquisitiveness. [For details on the articulation of this concept refer to Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction. ERIC Document Number: ED 315 423.]

2. Differentiate and Focus

Holistic scoring requires focus. In any essay, presentation, or clinical practice setting many elements must come together for overall success: critical thinking, content knowledge, and technical skill (craftsmanship). Deficits or strengths in any of these can draw the attention of the rater. However, in scoring for any one of the three, one must attempt to focus the evaluation on that element to the exclusion of the other two.

3. Practice, Coordinate, and Reconcile

Ideally, in a training session with other raters one will examine sample essays (videotaped presentations, etc.) which are paradigmatic of each of the four levels. Without prior knowledge of their level, raters will be asked to evaluate and assign ratings to these samples. After comparing these preliminary ratings, collaborative analysis with the other raters and the trainer is used to achieve consistency of expectations among those who will be involved in rating the actual cases. Training, practice, and inter-rater reliability are the keys to a high quality assessment.

Usually, two raters will evaluate each essay/assignment/project/performance. If they disagree there are three possible ways that resolution can be achieved: (a) by mutual conversation between the two raters, (b) by using an independent third rater, or (c) by taking the average of the two initial ratings. The averaging strategy is strongly discouraged. Discrepancies between raters of more than one level suggest that detailed conversations about the CT construct and about project expectations are in order. This rubric is a four level scale, half point scoring is inconsistent with its intent and conceptual structure. Further, at this point in its history, the art and science of holistic critical thinking evaluation cannot justify asserting half-level differentiations.

If working alone, or without paradigm samples, one can achieve a greater level of internal consistency by not assigning final ratings until a number of essays/projects/performances/assignments have been viewed and given preliminary ratings. Frequently natural clusters or groupings of similar quality soon come to be discernible. At that point one can be more confident in assigning a firmer critical thinking score using this four level rubric. After assigning preliminary ratings, a review of the entire set assures greater internal consistency and fairness in the final ratings.
University Studies Critical Thinking Rubric

Score of 6 – Consistently does all or almost all of the following:
- Accurately interprets evidence, statements, graphics, questions, etc.
- Identifies the salient arguments (reasons and claims) pro and con.
- Thoughtfully analyzes and evaluates major alternative points of view.
- Generates alternative explanations of phenomena or event.
- Justifies key results and procedures, explains assumptions and reasons.
- Fair-mindedly follows where evidence and reasons lead
- Makes ethical judgments

Score of 5 – Does most of the following:
- Accurately interprets evidence, statements, graphics, questions, etc.
- (Thinks through issues by) Identifying relevant arguments (reasons and claims) pro and con.
- Offers analysis and evaluation of obvious alternative points of view
- Generates alternative explanations of phenomena or event.
- Justifies (by using) some results or procedures, explains reasons.
- Fair-mindedly follows where evidence and reasons lead

Score of 4 – Does most of the following:
- Describes events, people, and places with some supporting details from the source.
- Make connections to sources, either personal or analytic.
- Demonstrates a basic ability to analyze, interpret, and formulate inferences.
- States or briefly includes more than one perspective in discussing literature, experiences, and points of view of others.
- Takes some risks by occasionally questioning sources, or stating interpretations and predictions.
- Demonstrates little evidence of rethinking or refinement of one's own perspective

Score of 3 – Does most or many of the following:
- Responds by retelling or graphically showing events or facts.
- Makes personal connections or identifies connections within or between sources in a limited way. Is beginning to use appropriate evidence to back ideas.
- Discusses literature, experiences, and points of view of others in terms of own experience
- Responds to sources at factual or literal level.
- Includes little or no evidence of refinement of initial response or shift in dualistic thinking.
- Demonstrates difficulty with organization and thinking is uneven

Score of 2 – Does most or many of the following:
- Misinterprets evidence, statements, graphics, questions, etc.
- Fails to identify strong, relevant counter-arguments
- Draws unwarranted or fallacious conclusions
- Justifies few results or procedures, seldom explains reasons
- Regardless of the evidence or reasons, maintains or defends views based on self-interest and/or preconceptions

Score of 1 – Consistently does all or almost all of the following:
- Offers biased interpretations of evidence, statements, graphics, questions, information or the points of view of others
- Fails to identify or hastily dismisses strong, relevant counter-arguments
- Ignores or superficially evaluates obvious alternative points of view. Argues using fallacious or irrelevant reasons, and unwarranted claims.
- Does not justify results or procedures, nor explains reasons.
- Exhibits close-mindedness or hostility to reason
QEP Critical Thinking Assessment Rubrics

These critical thinking rubrics, one for each of the QEP’s critical thinking student learning outcomes, represent a synthesis of approaches to what critical thinking is, what it looks like, and what it means to do it well. The rubrics employ the Universal Intellectual Standards developed by the Foundation for Critical Thinking (FCT); additionally, the majority of the criteria were adapted from aspects of critical thinking included in the textbook Critical Thinking: Tools for Taking Charge of Your Learning and Your Life by Richard Paul and Linda Elder of FCT.

Many other criteria were adapted from the critical thinking-content infusion approach of Robert Swartz of the National Center for Teaching Thinking. Other criteria were adapted from the approaches to critical thinking assessment of Director of Insight Assessment, Peter Facione, and his Holistic Critical Thinking Rubric. Some criteria were adapted from Susan K. Wolcott and Charlene J. Gray’s article Assessing and Developing Critical Thinking Skills presented at the 2003 Assessment Institute convened by Indiana University and Purdue University Indianapolis. Other criteria were adapted from Thomas K. Angelo and K. Patricia Cross’s book, Classroom Assessment Techniques. Additional criteria were developed by faculty at St. Philip’s College.

General descriptions for each level of the rubrics are:

**Skillful Critical Thinking**
Skillful critical thinking fulfills the full range of specific criteria at the indicated standard.

**Emergent Critical Thinking**
Emergent critical thinking fulfills the full range of specific criteria, but does not do so at the indicated standard.

**Critical Thinking Not Demonstrated**
Demonstration of critical thinking does not fulfill the specified criteria.

Pilot Rubric: 2006-7
1. Students will demonstrate their ability to pose vital questions and identify problems, formulating them clearly and precisely.

<table>
<thead>
<tr>
<th>Skillful Critical Thinking</th>
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</thead>
<tbody>
<tr>
<td>The student's work consistently demonstrates all or almost all of the following:</td>
</tr>
<tr>
<td>- fairly identifies assumptions he or she uses to pose questions or identify problems</td>
</tr>
<tr>
<td>- accurately identifies his or her purpose for asking questions or identifying problems</td>
</tr>
<tr>
<td>- accurately poses specific, significant questions that have to be answered in order to solve important problems or make important decisions</td>
</tr>
<tr>
<td>- discerns between relevant and irrelevant questions</td>
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<tr>
<td>- clearly and logically expresses his or her question(s) or problem(s) in several ways to recognize complexity</td>
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<tr>
<td>- clearly and precisely states questions or problems in specific language related to the situation/context</td>
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<tr>
<td>- accurately explains the significance of the most important uncertainties of the question(s) or problem(s)</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Emergent Critical Thinking</th>
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</thead>
<tbody>
<tr>
<td>The student's work demonstrates most or many of the following:</td>
</tr>
<tr>
<td>- identifies assumptions he or she uses to pose questions or identify problems, but assumptions are unfair</td>
</tr>
<tr>
<td>- identifies his or her purpose for asking questions or identifying problems, but purpose is inaccurate</td>
</tr>
<tr>
<td>- poses specific questions that have to be answered in order to solve important problems or make important decisions, but some essential questions are not asked or are inaccurate</td>
</tr>
<tr>
<td>- discerns between relevant and irrelevant questions, but with minor errors</td>
</tr>
<tr>
<td>- expresses his or her question(s) or problem(s) in several ways to recognize complexity, but the expressions are unclear or illogical</td>
</tr>
<tr>
<td>- states questions or problems in specific language related to the situation/context, but language is ambiguous or imprecise</td>
</tr>
<tr>
<td>- explains the significance of the most important uncertainties of the question(s) or problem(s), but some uncertainties are absent, or explanation contains minor errors.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Critical Thinking Not Demonstrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student's work consistently demonstrates all or almost all of the following:</td>
</tr>
<tr>
<td>- misidentifies assumptions he or she uses to pose questions or identify problems, or presents assumptions as facts</td>
</tr>
<tr>
<td>- does not identify his or her purpose for asking questions or identifying problems</td>
</tr>
<tr>
<td>- poses extraneous or unimportant questions to be answered in order to solve important problems or make important decisions</td>
</tr>
<tr>
<td>- does not distinguish between relevant and irrelevant questions</td>
</tr>
<tr>
<td>- expresses his or her question(s) or problem(s) in only one way; does not recognize complexity of questions or problems</td>
</tr>
<tr>
<td>- states questions or problems in language unrelated to the situation/context</td>
</tr>
<tr>
<td>- does not explain the significance of the most important uncertainties of the question(s) or problem(s)</td>
</tr>
</tbody>
</table>

Standards from Foundation for Critical Thinking's (FCT) Universal Intellectual Standards; criteria adapted from Paul & Elder, Peter Facione, Robert Swartz, Angelo & Cross, Wolcott & Gray, and St. Philip's College faculty

Pilot Rubric 2006-7
2. Students will demonstrate their ability to gather relevant information and interpret it effectively.

**Skillful Critical Thinking**

The student's work consistently demonstrates all or almost all of the following:
- provides clear evidence of his or her accurate assessment of the reliability of sources
- clearly and fairly articulates his or her assumptions when he or she interprets information
- formulates appropriately broad and deep categories to understand, describe, or characterize information
- identifies information as logical, significant and relevant based on how it helps to answer specific questions
- appropriately prioritizes information he or she has gathered based on how it helps to answer specific questions
- clearly expresses reasonable and valid interpretations of statements, logic, data, facts, questions, graphs, theories, assertions, descriptions, etc.

**Emergent Critical Thinking**

The student's work demonstrates most or many of the following:
- provides evidence of his or her assessment of the reliability of sources, but his or her articulation of the evidence is unclear
- articulates his or her assumptions when he or she interprets information or articulates his or her assumptions when he or she interprets information, but does so unclearly
- formulates appropriate categories to understand, describe, or characterize information, but categorization is superficial
- identifies information as logical, significant and relevant, based on how it helps to answer specific questions, but some important and/or relevant information is missing
- prioritizes information he or she has gathered based on how it helps to answer specific questions, but his or her priorities are unclear or inappropriate
- expresses reasonable and valid interpretations of statements, logic, data, facts, questions, graphs, theories, assertions, descriptions, etc., but the expression may be unclear

**Critical Thinking Not Demonstrated**

The student's work consistently demonstrates all or almost all of the following:
- provides little or no evidence of his or her assessment of the reliability of sources or the assessment is inaccurate
- articulates his or her assumptions as fact when he or she interprets information
- formulates unclear or inappropriate categories to understand, describe, or characterize information or does not categorize
- misidentifies or does not identify information as important and relevant, based on how it helps to answer specific questions
- erroneously prioritizes information he or she has gathered based on how it helps to answer specific questions, or does not prioritize
- expresses unreasonable and/or invalid interpretations of statements, logic, data, facts, questions, graphs, theories, assertions, descriptions, etc. or does not interpret information

Standards from Foundation for Critical Thinking's (FTC) *Universal Intellectual Standards* criteria adapted from Paul & Elder, Peter Paulson, Robert Swartz, Angelo & Cross, Wolcott & Gray, and St. Philip's College faculty

Pilot Rubric: 2006-7
3. Students will demonstrate their ability to impartially consider alternative systems of thought, recognizing and assessing assumptions, implications, and practical consequences.

**Skillful Critical Thinking**

The student's work consistently demonstrates all or almost all of the following:
- expresses an appropriately broad point of view in his or her approach to problems and issues
- clearly and fairly articulates other points of view and their reasoning to adequately understand these other viewpoints
- fairly articulates information against (not just for) his or her own position
- clearly and accurately distinguishes between reasoning involving definite correct and incorrect answers and definite procedures for getting those answers, and reasoning in which there are competing lines of thought
- identifies logical, significant, potential implications and consequences of alternative systems of thought
- clearly expresses assumptions that are reasonable and justifiable given the situation and evidence
- clearly expresses logical assumptions that are consistent with each other
- identifies logical variables that might lead to negative consequences

**Emergent Critical Thinking**

The student's work demonstrates most or many of the following:
- expresses a point of view in his or her approach to problems and issues, but the point of view is not appropriately broad
- articulates other points of view and their reasoning to adequately understand these other viewpoints, but the articulation is unclear or unfair
- articulates information against (not just for) his or her own position, but the representation is unfair
- distinguishes between reasoning involving definite correct and incorrect answers and definite procedures for getting those answers, and reasoning in which there are competing lines of thought, but includes minor errors
- identifies significant, potential implications and consequences of alternative systems of thought, but does not include some implications or consequences
- expresses assumptions that are reasonable and justifiable given the situation and evidence, but the expression is unclear
- clearly expresses assumptions that are mostly consistent with each other, or expresses assumptions that are consistent but unclear
- identifies some variables that might lead to negative consequences

**Critical Thinking Not Demonstrated**

The student's work consistently demonstrates all or almost all of the following:
- expresses a narrow point of view in his or her approach to problems and issues
- unfairly articulates other points of view and their reasoning and/or does not understand these other viewpoints
- unfairly articulates or does not articulate information against (not just for) his or her own position
- does not distinguish between reasoning involving definite correct and incorrect answers and definite procedures for getting those answers, and reasoning in which there are competing lines of thought
- misidentifies or does not identify significant, potential implications and consequences of alternative systems of thought
- expresses assumptions that are unreasonable and unjustifiable given the situation and evidence
- expresses assumptions that are inconsistent with each other
- misidentifies or does not identify variables that might lead to negative consequences

Standards from Foundation for Critical Thinking's (FCT) *Universal Intellectual Standards;* criteria adapted from Patil & Elder, Peter Facione, Robert Swartz, Angelo & Cross, Wolcott & Gray, and St. Philip's College faculty

Pilot Rubric: 2006-7
4. Students will demonstrate their ability to develop well-reasoned conclusions and solutions, checking them against relevant criteria and standards.

**Skillful Critical Thinking**

The student’s work consistently demonstrates all or almost all of the following:
- clearly articulates inferences that follow logically from the evidence presented
- clearly expresses multiple logical and plausible alternative conclusions and solutions
- clearly and accurately distinguishes between attainable and unattainable solutions
- clearly and precisely asserts logical conclusions only when he or she has sufficient evidence to support them strongly
- clearly and precisely articulates how he or she used a complex, systematic and logical process of critical inquiry to construct solution(s)
- clearly articulates an appropriate and broad range of relevant standards to judge conclusions and solutions in a specific context
- clearly and precisely applies relevant criteria to substantiate his or her logical conclusions or solutions
- accurately tests his or her conclusions or solutions against relevant standards

**Emergent Critical Thinking**

The student’s work demonstrates most or many of the following:
- articulates inferences that follow from the evidence present, but articulation is unclear
- expresses multiple logical alternative conclusions and solutions, but expression is unclear
- distinguishes between attainable and unattainable solutions, but does so unclearly
- asserts logical conclusions with sufficient evidence to support them, but conclusion may be unclear or imprecise
- articulates how he or she used a complex, systematic and logical process of critical inquiry to construct solution(s), but articulation may be unclear or imprecise
- articulates an appropriate and broad range of relevant standards to judge conclusions and solutions in a specific context, but articulation may be unclear or contain minor errors
- applies relevant criteria to substantiate his or her logical conclusions or solutions, but application may be unclear or imprecise
- tests his or her conclusions or solutions against relevant standards, but tests may be flawed

**Critical Thinking Not Demonstrated**

The student’s work consistently demonstrates all or almost all of the following:
- makes no inferences or makes inferences that do not follow from the evidence presented
- does not express alternative conclusions and solutions or expresses illogical and/or implausible alternative conclusions and solutions
- does not distinguish between attainable and unattainable solutions or does so inaccurately
- presents illogical conclusions or asserts conclusions without sufficient evidence to support them
- does not exhibit a complex, systematic and logical process of critical inquiry to construct solutions
- does not articulate relevant standards to judge conclusions
- does not apply standards to substantiate his or her conclusions or solutions
- does not test his or her conclusions or solutions against relevant standards

Standards from Foundation for Critical Thinking’s (FCT) Universal Intellectual Standards; criteria adapted from Paul & Elder. Peter Facione, Robert Swartz, Angelo & Cross, Wolcott & Gray, and St. Philip’s College faculty

Pilot Rubric: 2006-7
5. Students will demonstrate their ability to communicate effectively with others in determining solutions to complex problems.

**Skillful Critical Thinking**

The student’s work consistently demonstrates all or almost all of the following:

- clearly and precisely articulates a significant purpose that distinguishes it from related purposes
- clearly and precisely explains key concepts and ideas that he or she uses
- clearly explains the basic, relevant implications of the key words and phrases he or she uses
- clearly expresses his or her thinking about the concepts he or she uses at a variety of complex levels
- accurately uses clear stipulation, description, analogy, or figurative expression to remove confusing, unintended vagueness or ambiguity from his or her communication
- accurately stays on track with his or her clearly and precisely articulated purpose

**Emergent Critical Thinking**

The student’s work demonstrates most or many of the following:

- articulates a significant purpose that distinguishes it from related purposes, but does not do so clearly or precisely or articulates an insignificant purpose
- explains key concepts and ideas that he or she uses, but does not do so clearly or precisely
- explains relevant implications of key words and phrases he or she uses, but explanation is unclear or explains irrelevant implications
- expresses his or her thinking about the concepts he or she uses, but does not do so clearly or displays thinking at only one level
- uses stipulation, description, analogy, or figurative expression to remove confusing, unintended vagueness or ambiguity from his or her communication, but the communication is unclear or inaccurate
- mostly stays on track with his or her articulated purposes, but sometimes strays off purpose

**Critical Thinking Not Demonstrated**

The student’s work consistently demonstrates all or almost all of the following:

- does not articulate a purpose that distinguishes it from related purposes
- does not explain key concepts and ideas that he or she uses
- does not explain implications of the key words and phrases he or she uses
- expresses his or her thinking about the concepts he or she uses at only one level
- is confusing, vague, or ambiguous
- does not stay on track with his or her purpose

Standards from Foundation for Critical Thinking’s (FCT) *Universal Intellectual Standards*; criteria adapted from Paul & Elder, Peter Facione, Robert Swarts, Angelo & Cross, Wolcott & Gray, and St. Philip's College faculty

Pilot Rubric: 2006-7
LEVELS OF PERFORMANCE FOR
FRAMING AND RESOLVING ILL-DEFINED PROBLEMS

EXCELLENT
- identifies most important ill-defined aspects of problem as well as general ill-defined problem nature
- keenly aware of personal perspective and biases and compensates effectively
- also aware of relationship between present problem and context in which it is situated
- uses goal, mission or other ultimates to structure problem space effectively
- systematically works through problem; often makes multiple passes through the problem space as conditions change in order to assess consequences of changes or alternatives
- unsuccessful attempts regularly used to better understand problem and solution process
- generates rich variety of alternatives; tests them objectively and selects rationally
- use general principles and fundamental concepts to frame overall problem space and as solution tools; provides reasonable and substantive justification for assumptions and choices
- appropriate level of confidence and commitment to eventual solution

SATISFACTORY
- aware of general “ill-defined” nature of the problem and some of the specific problem deficiencies
- somewhat aware of personal perspective but not fully able to compensate for its effects
- evidence of awareness of problem context found throughout solution process but some important connections and implications not recognized
- may structure problem space based on superficial problem characteristics or unwarranted assumptions
- works through problem systematically but may omit necessary reconsideration of assumptions
- unsuccessful attempts recognized and abandoned
- generates multiple potential solutions but may not consider them all or use appropriate selection criteria
- tendency to use particular tools and mechanisms appropriately but may lack ability to justify the approach taken or adjust tools to fit the problem presented
- likely to lack confidence in solution; limited commitment without encouragement or support

DEFICIENT
- unaware of either general or specific characteristics that preclude routine solution procedures
- apparently unaware of personal perspectives, biases or assumptions and their effects
- apparently unaware of broader context in which problem occurs; assumes singular perspective
- unable or unwilling to structure on the problem space within parameters provided
- unsuccessful, sporadic, apparently random, attempts at problem lead to frustration and abandonment
- Unsuccessful attempts based on untenable assumptions not recognized
- fully commits to first apparent solution path and follows it through to completion without reconsideration
- random or inappropriate application of tools; may not be able to provide reasons for approach selected
- likely to display either no confidence in solution or process (may claim problem is impossible) or be inappropriately confident and overly committed to obviously ineffective solution
Developmental Stages of Inquiry

Inquiry - a close examination of a matter in a search for information or truth; seeking for information by asking questions. "Inquiry" calls attention to systematic processes of exploring issues, collecting and analyzing evidence, and making informed judgments.

Inquiry focuses on issues, objects, or works. An issue, object, or work is defined, for this purpose, as anything that may be analyzed by a student depending on his/her area of inquiry. This may include research articles, novels, plays, works of art, court opinions, scientific formulas, human interactions, history, essays, and other texts.

Stage 1
- Observes and records most evident aspects of issue/object/work
- Identifies and defines the explicit elements of issue/object/work
- Articulates the observations
- Develops accuracy of observations through practice, assessment, feedback, and self-assessment
- Uses oral and written exercises and discussions to increase observational skills and the use of terminology
- Gathers information from few sources

Stage 2
- Continues to refine observational skills by practicing using feedback from assessments
- Identifies assumptions and implicit implications of issue/object/work
- Learns to make inferences based on observations
- Articulates the methods by which inferences were made from observations
- Uses feedback on the quality of the inferences as well as on one's thought process in order to improve self-assessment
- Uses experiences of what is being studied to develop own understanding
- Recognizes concepts once they have been applied.
- Recognizes when one's own experiences may be an example of concept.
- Gathers information from a few, critical sources

Stage 3
- Explores the relationships both between and among the inferences and observations
- Articulates the process used to make and examine these relationships
- Learns from modeling and examples of observations/inferences/relationships
- Applies concepts to experiences
- Explores issue/object/work from others' perspectives
- Seeks a thorough understanding of issue/object/work prior to making judgments about issue/object/work
- Gathers information from multiple sources

Stage 4
- Integrates observations/inferences/relationships of issue/object/work
- Assesses the significance of the relationships to the overall meaning of the work
- Articulates the importance of the observations/inferences/relationships to the overall unity and meaning of the work
- Explores issue/object/work from multiple perspectives
- Makes judgments only after thoroughly exploring issue/object/work
- Explores issue/object/work using methods from multiple disciplines
- Examines relationships between issues/objects/works
- Gathers information from multiple sources and evaluates their credibility

http://www.bgsu.edu/offices/assessment/page31461.html