

Using Classroom Assignments to Assess Critical Thinking Skills

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Workshop Learning Outcomes:

- Identify Critical Thinking Learning Outcomes
- Explore Alternative Rubric Designs
- Review Cognitive Development
- Assess Student Papers
- Evaluate/Critique Rubric Design
- Create a Customized Rubric
- Consider How to Close the Assessment Loop

Identify Critical Thinking Learning Outcomes

ACTIVITY

List Words/Phrases That Describe the Critical Thinking:

Using a Rubric to Assess Critical Thinking

- ▶ **RUBRIC:** Set of scoring guidelines for assessing student performance

- ▶ **An Assessment Method Should:**
 - Link Assessment Results to Student Learning (Help “Close the Loop”)

 - Provide Students With Useful Feedback

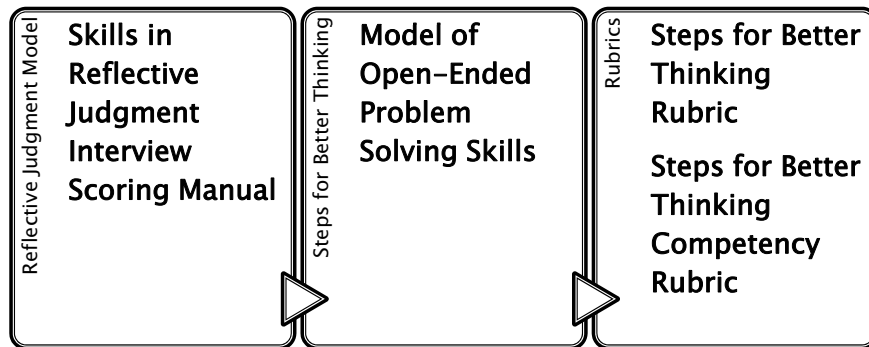
 - Provide Faculty With Useful Information for Assignments/Courses/Curricula

Steps for Better Thinking Performance Patterns

← Less Complex Performance Patterns	More Complex Performance Patterns →
<p>“Confused Fact-Finder” Performance Pattern 0 Step 1, 2, 3, & 4 skills weak</p> <p>Overall Problem Approach: Proceeds as if goal is to find the single, “correct” answer</p> <p>Common Weaknesses:</p> <ul style="list-style-type: none"> • Fails to realistically perceive uncertainties/ambiguities • Does not seem to “get it”; recasts open-ended problem to one having a single “correct” answer • Insists that professors, textbooks, or other experts should provide “correct” answer • Expresses confusion or futility • Uses illogical/contradictory arguments • Cannot evaluate or appropriately apply evidence • Inappropriately cites textbook, “facts,” or definitions • Concludes based on unexamined authorities’ views or what “feels right” 	<p>“Biased Jumper” Performance Pattern 1 Step 2, 3, & 4 skills weak</p> <p>Overall Problem Approach: Proceeds as if goal is to stack up evidence and information to support conclusion</p> <p>Major Improvements Over Performance Pattern 0:</p> <ul style="list-style-type: none"> • Acknowledges existence of enduring uncertainties and the viability of multiple perspectives • Begins to use evidence logically to support conclusions <p>Common Weaknesses:</p> <ul style="list-style-type: none"> • Jumps to conclusions • Stacks up evidence quantitatively to support own view and ignores contrary information • Equates unsupported personal opinion with other forms of evidence • Inept at breaking problem down and understanding multiple perspectives • Insists that all opinions are equally valid, but ignores or discounts other opinions • Views experts as being opinionated or as trying to subject others to their personal beliefs
<p>“Perpetual Analyzer” Performance Pattern 2 Step 3 & 4 skills weak</p> <p>Overall Problem Approach: Proceeds as if goal is to establish a detached, balanced view of evidence and information from different points of view</p> <p>Major Improvements Over Performance Pattern 1:</p> <ul style="list-style-type: none"> • Presents coherent and balanced description of a problem and the larger context in which it is found • Identifies issues, assumptions, and biases associated with multiple perspectives • Attempts to control own biases • Logically and qualitatively evaluates evidence from different viewpoints <p>Common Weaknesses:</p> <ul style="list-style-type: none"> • Unable to establish priorities for judging across alternatives • Reluctant to select and defend a single overall solution as most viable, or provides inadequate support for solution • Writes overly long paper in attempt to demonstrate all aspects of analysis (problems with prioritizing) • Jeopardizes class discussions by getting stuck on issues such as definitions 	<p>“Pragmatic Performer” Performance Pattern 3 Step 4 skills weak</p> <p>Overall Problem Approach: Proceeds as if goal is to come to a well-founded conclusion based on objective comparisons of viable alternatives</p> <p>Major Improvements Over Performance Pattern 2:</p> <ul style="list-style-type: none"> • After thorough exploration, consciously prioritizes issues and information • Articulates well-founded support for choosing one solution while objectively considering other viable options • Conclusion based on qualitative evaluation of experts’ positions or situational pragmatics • Effectively incorporates others in the decision process and/or implementation <p>Common Weaknesses:</p> <ul style="list-style-type: none"> • Conclusion doesn’t give sufficient attention to long-term, strategic issues • Inadequately identifies and addresses solution limitations and “next steps”
<p>“Strategic Re-Visioner” Performance Pattern 4 Strategically Integrates Step 1, 2, & 3 skills</p> <p>Overall Problem Approach: Proceeds as if goal is to construct knowledge, to move toward better conclusions or greater confidence in conclusions as the problem is addressed over time</p> <p>Major Improvements Over Performance Pattern 3:</p> <ul style="list-style-type: none"> • Prioritizes and addresses limitations effectively • Interprets and re-interprets bodies of information systematically over time as new information becomes available • Exhibits a strategic, long-term vision • Spontaneously considers possible ways to generate new information about the problem <p>Common Weaknesses:</p> <ul style="list-style-type: none"> • Not applicable 	<p>“Strategic Re-Visioner” Performance Pattern 4 Strategically Integrates Step 1, 2, & 3 skills</p> <p>Overall Problem Approach: Proceeds as if goal is to construct knowledge, to move toward better conclusions or greater confidence in conclusions as the problem is addressed over time</p> <p>Major Improvements Over Performance Pattern 3:</p> <ul style="list-style-type: none"> • Prioritizes and addresses limitations effectively • Interprets and re-interprets bodies of information systematically over time as new information becomes available • Exhibits a strategic, long-term vision • Spontaneously considers possible ways to generate new information about the problem <p>Common Weaknesses:</p> <ul style="list-style-type: none"> • Not applicable

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Using Cognitive Levels for Critical Thinking Rubric Design



Benefits of Rubric Based on Levels of Cognitive Development

- ▶ Improve insights into students' critical thinking strengths and weaknesses
- ▶ Identify “next steps” in building student critical thinking skills
- ▶ Provide students with more appropriate feedback
- ▶ Improve interrater reliability

Steps for Better Thinking Rubric

		← Less Complex Performance Patterns		More Complex Performance Patterns →		
Steps for Better Thinking ↓ SKILLS ↓		"Confused Fact Finder" Performance Pattern 0—How performance might appear when Step 1, 2, 3, and 4 skills are weak	"Biased Jumper" Performance Pattern 1—How performance might appear when Step 1 skills are adequate, but Step 2, 3, and 4 skills are weak	"Perpetual Analyzer" Performance Pattern 2—How performance might appear when Step 1 and 2 skills are adequate, but Step 3 and 4 skills are weak	"Pragmatic Performer" Performance Pattern 3—How performance might appear when Step 1, 2, and 3 skills are adequate, but Step 4 skills are weak	"Strategic Re-Visioner" Performance Pattern 4—How performance might appear when one has strong Step 1, 2, 3, and 4 skills
Step 1: IDENTIFY A—Identify and use relevant information B—Articulate uncertainties	A0—Uses very limited information; primarily "facts," definitions, or expert opinions B0—Either denies uncertainty OR attributes uncertainty to temporary lack of information or to own lack of knowledge C0—Portrays perspectives and information dichotomously, e.g., right/wrong, good/bad, smart/stupid D0—Does not acknowledge interpretation of information; uses contradictory or illogical arguments; lacks organization	A1—Uses limited information, primarily evidence and information supporting own conclusion* B1—Identifies at least one reason for significant and enduring uncertainty*	A2—Uses a range of carefully evaluated, relevant information, including alternative criteria for judging among solutions B2—Articulates complexities related to uncertainties and the relationships among different sources of uncertainty	A3—Evaluates information, including alternative criteria for judging among solutions B3—Exhibits complex awareness of relative importance of different sources of uncertainties	A4—Same as A3 PLUS includes viable strategies for GENERATING new information to address limitations B4—Exhibits complex awareness of ways to minimize uncertainties in coherent, on-going process of inquiry	
Step 2: EXPLORE C—Integrate multiple perspectives and clarify assumptions D—Qualitatively interpret information and create a meaningful organization	E0—Fails to reason logically from evidence to conclusions; relies primarily on unexamined prior beliefs, clichés, or an expert opinion F0—Creates illogical implementation plan; uses poor or inconsistent communication; does not appear to recognize existence of an audience	C1—Acknowledges more than one potential solution, approach, or viewpoint; does not acknowledge own assumptions or biases D1—Interprets information superficially as either supporting or not supporting a point of view; ignores relevant information that disagrees with own position; fails to sufficiently break down the problem	C2—Interprets information from multiple viewpoints; identifies and evaluates assumptions; attempts to control own biases* D2—Objectively analyzes quality of information; Organizes information and concepts into viable framework for exploring realistic complexities of the problem*	C3—Evaluates information using general principles that allow comparisons across viewpoints; adequately justifies assumptions 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	C4—Same as C3 PLUS argues convincingly using a complex, coherent discussion of own perspective, including strengths and limitations D4—Same as D3 PLUS systematically reinterprets evidence as new information is generated over time OR describes process that could be used to systematically reinterpret evidence	
Step 3: PRIORITIZE E—Use guidelines or principles to judge objectively across the various options F—Implement and communicate conclusions for the setting and audience	E1—Provides little evaluation of alternatives; offers partially reasoned conclusions; uses superficially understood evidence and information in support of beliefs F1—Fails to adequately address alternative viewpoints in implementation plans and communications; provides insufficient information or motivation for audience to adequately understand alternatives and complexity	E2—Uses evidence to reason logically within a given perspective, but unable to establish criteria that apply across alternatives to reach a well-founded conclusion OR unable to reach a conclusion in light of reasonable alternatives and/or uncertainties F2—Establishes overly complicated implementation plans OR delays implementation process in search of additional information; provides audience with too much information (unable to adequately prioritize)	E3—Uses well-founded, overarching guidelines or principles to objectively compare and choose among alternative solutions; provides reasonable and substantive justification for assumptions and choices in light of other options* F3—Focuses on pragmatic issues in implementation plans; provides appropriate information and motivation, prioritized for the setting and audience*	E4—Articulates how a systematic process of critical inquiry was used to build solution; identifies how analysis and criteria can be refined, leading to better solutions or greater confidence over time F4—Implementation plans address current as well as long-term issues; provides appropriate information and motivation, prioritized for the setting and audience, to engage others over time	E4—Articulates how a systematic process of critical inquiry was used to build solution; identifies how analysis and criteria can be refined, leading to better solutions or greater confidence over time F4—Implementation plans address current as well as long-term issues; provides appropriate information and motivation, prioritized for the setting and audience, to engage others over time	
Step 4: ENVISION G—Acknowledge and monitor solution limitations through next steps H—Overall approach to the problem	G0—Does not acknowledge significant limitations beyond temporary uncertainty; next steps articulated as finding the "right" answer (often by experts) H0—Proceeds as if goal is to find the single, "correct" answer	G1—Acknowledges at least one limitation or reason for significant and enduring uncertainty; if prompted, next steps generally address gathering more information H1—Proceeds as if goal is to stack up evidence and information to support own conclusion	G2—Articulates connections among underlying contributors to limitations; articulates next steps as gathering more information and looking at problem more complexly and/or thoroughly H2—Proceeds as if goal is to establish an unbiased, balanced view of evidence and information from different points of view	G3—Adequately describes relative importance of solution limitations when compared to other viable options; next steps pragmatic with focus on efficiently GATHERING more information to address significant limitations over time H3—Proceeds as if goal is to come to a well-founded conclusion based on objective consideration of priorities across viable alternatives	G4—Identifies limitations as in G3; as next steps, suggests viable processes for strategically GENERATING new information to aid in addressing significant limitations over time* H4—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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* Shaded cells represent emergence of minimal skills in each step. Performance descriptions to the left of a shaded cell characterize skill weaknesses. Performance descriptions to the right of a shaded cell characterize skill strengths.

Steps for Better Thinking Competency Rubric

	Performance Pattern 0 “Confused Fact Finder”	Performance Pattern 1 “Biased Jumper”	Performance Pattern 2 “Perpetual Analyzer”	Performance Pattern 3 “Pragmatic Performer”	Performance Pattern 4 “Strategic Reviser”
Step 1 Skills	Identify relevant information Circle ALL that apply	Identifies information ¹ that is relevant to the problem	Explores a wide range of relevant information ¹	Focuses on the most important relevant information ¹	Develops viable strategies for generating important relevant information ¹ over time
Step 2 Skills	Recognize and address uncertainties ² Circle ALL that apply	Identifies at least one reason for significant and permanent uncertainty ² Acknowledges more than one potential solution, approach, or viewpoint	Addresses significant and permanent uncertainties ² when interpreting information Analyzes information from multiple perspectives, ³ including assumptions ⁴ and alternative objectives	Identifies and discusses the significance of the most important uncertainties ² Provides reasonable and substantive justification for assumptions ⁴ used in analysis	Develops viable strategies for minimizing important uncertainties ² over time Argues convincingly using a complex, coherent discussion of own perspective; Articulates strengths and weaknesses of position
Step 3 Skills	Integrate multiple perspectives ³ and clarify assumptions ⁴ Circle ALL that apply	Uses evidence logically to support a point of view; ² Correctly applies concepts/theories/techniques	Qualitatively interprets information and develops meaningful categories for analysis Avoids reaching a biased conclusion	Preserves problem complexity, but emphasizes the most important and/or most relevant and reliable information	Systematically re-interprets information as circumstances change or new information becomes available 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
Step 4 Skills	Interpret and organize information Circle ALL that apply			Appropriately tailors communication or implementation plans to the setting and audience	Provides appropriate information to motivate and engage others in long-term strategies
Step 5 Skills	Use guidelines or principles to judge objectively across options Circle ALL that apply			Focuses on most efficient ways to address limitations or to gather additional information	Articulates solution limitations as a natural part of addressing open-ended problems Identifies uncertainties and limitations as opportunities for continuous improvement; Engages in lifelong learning
Overall Approach to the Problem Circle ONLY ONE	Engage in continuous improvement Circle ALL that apply	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

¹ Information can take many forms, including facts, descriptions, definitions, opinions, ideas, claims, theories, concepts, observations, research findings, values, perceptions, beliefs, influences, effects, and so on. Information can be obtained in many ways such as reading, seeing, hearing, touching, feeling, experiencing, interacting, thinking, etc.

² Uncertainties can relate to many aspects of the problem, including the problem definition, availability of solution alternatives, quality and interpretation of information, effects of alternatives, priorities and values of the decision maker and others, and so on. Temporary uncertainties relate to conditions that will become known in the future (e.g., experts will find the answer, information will become available, or effects will be knowable).

³ Perspectives can relate to any type of grouping that is meaningful to the problem, such as categories of people, cultures, societies, roles, races, genders, hierarchies, theories, concepts, ideas, beliefs, attitudes, physical locations, time, disciplines, values, emotions, and so on.

⁴ Assumptions are hypotheses, suppositions, conjectures, assertions, presumptions, beliefs, or premises that are taken for granted or that lie behind an argument. Assumptions are made because of uncertainties; the “truth” cannot be known or proven. Some assumptions are better than others. Better assumptions are more reasonable, logical, comprehensive, plausible, likely, rational, impartial, objective, justified, credible, and/or believable.

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Practice Rating Student Papers

ACTIVITY

- Read Assignment & Student Papers
(Separate Handout)
- Use One or Both of Preceding Rubrics
- Reach Rating Consensus With Other Participants

Evaluate/Critique Rubric Design

- Did you and your colleagues reach consensus on the ratings?
- What are the advantages and disadvantages of these rubrics?

Major Difficulties

- ▶ Desired Critical Thinking Outcomes Might Not Match Someone Else's Rubric
- ▶ Professors Usually Do Not Have Cognitive Development Training → Poor Reliability
- ▶ Students Might Not Understand Feedback

Creating a Customized Developmental Rubric

- ▶ Maintain Developmental Approach
- ▶ Make it Easier for Schools, Departments, and Individual Professors to Create Useful Rubrics

One Size Doesn't Fit All: Create a Customized Critical Thinking Rubric (version 3/25/07)

PURPOSE: The purpose of this document is to help you develop a customized critical thinking rubric. You might wish to develop a customized rubric because existing rubrics might:

- Not address the specific critical thinking skills you would like to assess
- Include more performance levels than needed, given the skills of your students and the objectives of your course/program/institution
- Use language that is inconsistent with your discipline

CHOOSE ROW(S): The table on the following pages includes rows for a variety of potential critical thinking skills. Choose a subset of the rows corresponding to the skills you would like to assess (e.g., based on the skills called for in an assignment or the learning objectives of your program or institution). For a classroom rubric, it is generally best to choose 3 to 7 rows that will fit on a single page.

CHOOSE NUMBER OF COLUMNS: The columns on the following pages correspond to Steps for Better Thinking performance patterns 0 through 4, which are based on the skills exhibited at stages 3 through 7 of King & Kitchener's reflective judgment model. (For more details about the performance patterns, see the materials available under Educator Resources at www.WolcottLynch.com.) For assessing undergraduate student work, it is usually sufficient for a rubric to include only performance patterns 0 through 2 or performance patterns 0 through 3. For graduate student work, you may wish to use only performance patterns 0 through 3 or all five patterns.

TITLE THE COLUMNS: You might want to re-label the columns in your rubric. For example, labels for a 3-column rubric might be "Weak, Average, and Very Good," or "Limited, Developing, and Advanced."

MODIFY TERMINOLOGY: If desired, modify the terminology in the rubric to match the language used in your course/discipline/institution. However, take care to ensure that the wording changes do not alter the complexity of thinking described within each column of the rubric.

PROVIDE DEFINITIONS: Consider providing your students with definitions of key terms used in the rubric. See the last page of this document for ideas.

ADD CITATION: Provide a citation to this document (e.g., at the bottom of your rubric): *Developed from Wolcott, S. K., October 31, 2006, One Size Doesn't Fit All: Create a Customized Critical Thinking Rubric, Available at www.WolcottLynch.com.*

LOOK FOR NEW IDEAS: Over time, additions and changes will be made to this document. Be sure to check for the newest version under "Educator Resources" at www.WolcottLynch.com.

Thanks to the many educators who have contributed to the content in this document, especially Charlene Grey at Pennsylvania Campus Compact; Jerry Stonewater and his colleagues at Miami University; JoAnn Carter-Wells, Kathryn Angus, and their colleagues in the Reading Department at California State University-Fullerton; and Dasaratha Rama at Florida International University.

	Performance Pattern 0	Performance Pattern 1	Performance Pattern 2	Performance Pattern 3	Performance Pattern 4
Overall approach to the problem/question	Attempts to find the single "correct" answer to open-ended questions/problems	Appears to begin with conclusion and then stack up evidence/arguments to support it	Appears to perform comprehensive and objective analyses from different viewpoints, but unable to reach or strongly defend conclusions	Appears to develop well-founded conclusions based on comprehensive and objective comparison of viable alternatives	Proceeds as if goal is to construct knowledge, to move toward better conclusions or greater confidence in conclusions as the problem is addressed over time
Identifies and summarizes the problem/question in readings or other sources of information	Does not identify and summarize the problem, or identifies an inappropriate problem	Identifies the main problem; but does not identify subsidiary, embedded, or implicit aspects of the problem	Clearly identifies the main problem and subsidiary, embedded, or implicit aspects of the problem	In addition to previous level, emphasizes and states criteria for identifying the most important aspects of the problem	In addition to previous level, anticipates future problems and identifies issues arising from current limitations
Identifies and addresses uncertainties (i.e., reasons why the problem is open-ended)	Ignores uncertainty, or attributes uncertainty to temporary lack of information or to own lack of knowledge	Identifies at least one reason for significant and permanent uncertainty, but does not integrate uncertainties into analysis	Addresses significant and permanent uncertainties when interpreting and analyzing information	Identifies and discusses the significance of the most important uncertainties	Develops viable strategies for minimizing the most important uncertainties over time
Identifies information/evidence that is relevant to the problem	Identifies irrelevant information	Identifies at least some information that is relevant to the problem	Explores a wide range of relevant information	Focuses on the most important relevant information	Develops viable strategies for generating important relevant information over time
Clarify the facts, concepts, evidence and other forms of support for a position	Provides very limited support for OWN thesis, primarily unexamined prior beliefs, clichés, expert opinions, or quotes; Fails to acknowledge and/or provide support for OTHER THAN OWN if viewed as "incorrect"	Explains support for OWN thesis, but uses superficially understood evidence; Fails to acknowledge and/or provide support for thesis OTHER THAN OWN, or provides less compelling evidence and then discounts it	Investigates a range of evidence supporting multiple viewpoints; Uses carefully evaluated evidence to reason logically for a GIVEN thesis; Provides inadequate support for OWN thesis in light of reasonable alternatives and/or uncertainties	Focuses on the most important relevant evidence and investigates evidence supporting multiple viewpoints; Uses carefully evaluated evidence to reason logically in support of own thesis; provides reasonable and substantive justification for interpretations	Articulates how a systematic process of critical inquiry was used to build a position
Clarifies and analyzes the information/evidence supporting OWN position/thesis	Provides very limited support, primarily unexamined prior beliefs, clichés, expert opinions, or quotes	Provides support, but uses superficially understood evidence	Explores support for multiple viewpoints, but fails to clearly identify or provide adequate support for own position/thesis	Uses carefully evaluated evidence to reason logically in support of position/ thesis	Articulates how a systematic process of critical inquiry was used to build position/thesis
Clarifies and analyzes the information/evidence supporting a position/ thesis with which one disagrees	Fails to acknowledge and/or provide support; characterizes other positions as incorrect or wrong	Fails to acknowledge and/or provide support, or provides limited support and then discounts it	Investigates a range of evidence supporting a given position	Focuses on the most important relevant evidence for evaluating another position	Articulates how a systematic process of critical inquiry was or can be used to evaluate another position
Identifies and explores information/evidence supporting multiple viewpoints (or solutions, approaches, perspectives)	Portrays viewpoints dichotomously, e.g., right/wrong, good/bad, smart/stupid	Acknowledges more than one potential viewpoint, but provides superficial analyses	Explores arguments and evidence supporting multiple viewpoints	Evaluates information using general principles that allow comparisons across viewpoints	In addition to previous level, articulates a systematic process for evaluating viewpoints over time

Evaluate the quality (i.e., the relevance, reliability, and sufficiency) of evidence/support for a position	Repeats evidence or other forms of support from authoritative sources, taking it as truth	Superficially interprets evidence as either supporting or not supporting a position; equates unsupported personal opinion with other forms of evidence; focuses on quantity rather than quality of evidence	Evaluates the quality of evidence, addressing strengths, weaknesses, and context of the problem	In addition to previous level, emphasizes the highest quality evidence	In addition to previous level, develops viable strategies for addressing important limitations of evidence over time
Evaluate similarities and differences in points of view	Focuses on definitions or descriptions OR describes alternative viewpoints as right and wrong	Provides superficial comparison; focuses primarily on own agreement or disagreement	Provides accurate and detailed assessment of similarities and differences	In addition to Level 2: Develops new insights based on complex comparisons of multiple viewpoints	In addition to Level 3: Develops viable strategies for gaining new knowledge to more clearly identify similarities and differences
Compare and contrast two things, ideas, theories, or points of view	Focuses on definitions or descriptions OR describes ideas, theories, or points of view as right and wrong	Provides superficial comparison; focuses primarily on own agreement or disagreement with ideas, theories, or points of view	Provides accurate and detailed assessment of similarities and differences	In addition to Level 2: Discusses whether the similarities or the differences are more important in a given context	In addition to Level 3: Develops viable strategies for gaining new knowledge to more clearly identify similarities and differences
Identifies and evaluates key assumptions	Does not acknowledge assumptions; if explicitly asked to address assumptions, responds inappropriately (e.g., provides definition or asserts a "correct" answer)	Does not acknowledge assumptions; if explicitly asked to address assumptions, focuses on others' assumptions, OR identifies some assumptions but fails to analyze them, OR provides superficial analysis of assumptions	Identifies assumptions related to multiple perspectives; evaluates the reasonableness of assumptions	In addition to previous level, addresses the most important or critical assumptions	In addition to previous level, develops strategies for addressing limitations related to assumptions over time
Monitor one's own comprehension and apply various strategies to clarify one's own thoughts and actions	Equates learning with knowing the correct solution; Fails to recognize own role in comprehension and thoughts other than simplistic aspects (e.g., time spent studying)	Fails to recognize qualitative differences in learning effort or performance; equates learning with "doing the work"; Ignores or seems discouraged by information suggesting that own learning approach is inadequate	Considers a wide range of learning strategies; Recognizes qualitative differences in effort and performance; Evaluates the quality of learning strategies in relation to own preferences and skills	In addition to Level 2: Views learning as a process that can be improved strategically over time	In addition to Level 3: Spontaneously addresses ways to improve learning or performance
Identifies and considers the influence of the context (including audience) on the issue	Does not address context beyond dichotomous characterizations such as right/wrong, good/bad, smart/stupid	Acknowledges the existence of different contexts, but focuses on context in support of own opinion	Identifies and considers the influence of context when analyzing perspectives and data/evidence	Analyzes the issue with a clear sense of scope and context, including an assessment of the audience of the analysis	Identifies and addresses long-term considerations related to the scope, context, and audience
Identifies and evaluates implications and consequences of alternatives	Does not address implications or consequences beyond dichotomous characterizations such as right/wrong, good/bad, smart/stupid	Considers implications and consequences only superficially; ignores negative consequences of own position	Analyzes implications and consequences for multiple alternative	In addition to previous level, establishes criteria to prioritize implications and consequences across alternatives	In addition to previous level, identifies processes for addressing implications and consequences over time

Clearly presents and supports conclusions	Provides facts, definitions, or other “authoritative” information that mask as conclusions instead of own conclusion	Clearly states conclusions and reasons, but limited to supporting primarily one perspective	Reluctant to select and defend a single overall conclusion in light of viable alternatives; may provide conclusion with inadequate support	Articulates criteria that apply across viable alternatives to reach well-founded conclusions	In addition to previous level, articulates how problem solving approach and criteria can be refined, leading to better solutions or greater confidence over time
Clearly organizes and presents information	Makes contradictory or illogical statements; lacks organization	Clearly presents own arguments, but fails to sufficiently break down the problem	Organizes information and concepts into viable framework for exploring realistic complexities of the problem	Organizes information using criteria that allow for qualitative comparisons across viewpoints/ alternatives	In addition to previous level, describes process for systematically reinterpreting evidence and/or solutions over time
Identifies limitations of position/thesis and establishes plans for addressing those limitations	Does not acknowledge significant limitations beyond temporary uncertainty; next steps articulated as finding the “right” answer (often by experts)	Acknowledges at least one limitation or reason for significant and enduring uncertainty; if prompted, next steps generally address gathering more information	Articulates connections among underlying contributors to limitations; articulates next steps as gathering more information and looking at problem more complexly and/or thoroughly	Adequately describes relative importance of solution limitations when compared to other viable options; next steps focus on efficiently gathering more information to address significant limitations	In addition to previous level, identifies viable processes for strategically generating new information/knowledge to aid in addressing significant limitations over time
Establishes implementation plans for recommended solution	Ignores implementation or creates illogical implementation plan	Fails to adequately address alternative viewpoints in implementation plans	Establishes overly complicated implementation plans OR delays implementation process in search of additional information	Develops implementation plans that address multiple issues and viewpoints; focuses on pragmatic issues	Develops implementation plans that address multiple issues and viewpoints; addresses current as well as long-term issues
Adapts communication for the setting and audience	Does not appear to recognize existence of an audience	Provides insufficient information or motivation for audience to adequately understand alternatives and complexity	Provides audience with too much information (unable to adequately prioritize)	Uses communication that is appropriately designed for the setting and audience (e.g., objective tone, understandable terminology, appropriate detail, anticipates audience needs/questions)	In addition to previous level, encourages others address long-term issues and concerns
Identifies and controls for own biases	Does not appear to recognize existence of bias	Acknowledges the existence of potential biases, but does not recognize bias in own analysis or conclusions; makes comments that appear to lack objectivity (e.g., uses pejorative language when referring to others’ arguments)	Identifies and describes methods to control for own biases; uses objective tone by avoiding biased language	In addition to previous level, identifies and addresses the most important sources of potential bias	In addition to previous level, describes process for systematically identifying and reducing bias over time
Use reflection to revise interpretations and conclusions	Expresses confusion about need to reflect; focuses on correctness of position; revises conclusion based on learning “correct” information	Exhibits overconfidence in own performance; focuses primarily on reinforcing original position, or changes position due to concrete evidence that another alternative is better	Explores alternative interpretations of evidence and/or alternative viewpoints; additional analyses may reduce ability to strongly support a single position; may be overly self-critical	Acknowledges limitations; reevaluates interpretations and conclusions when prompted; does not automatically engage in reflection	Systematically reevaluates interpretations and conclusions to address limitations, consider new circumstances, reach a better solution, or achieve greater confidence

Definitions of Key Terms:

Assumptions are hypotheses, suppositions, conjectures, assertions, presumptions, beliefs, or premises that are taken for granted or that lie behind an argument. Assumptions are made because of uncertainties; the “truth” cannot be known or proven. Some assumptions are better than others. Better assumptions are more reasonable, logical, comprehensive, plausible, likely, rational, impartial, objective, justified, credible, and/or believable.

Context refers to the circumstance, background, and/or relevant frameworks for evaluation such as cultural, social, behavioral, political, scientific, economic, ethical, personal, or theoretical.

Evidence/information may include facts, descriptions, definitions, arguments, opinions, ideas, claims, theories, concepts, observations, research findings, values, perceptions, beliefs, influences, effects, and so on. Evidence/information can be obtained in many ways such as reading, seeing, hearing, touching, feeling, experiencing, interacting, and thinking.

Importance is specified using appropriate criteria such as evidence quality, relevance to decision context, or other priorities.

Quality includes factors such as evidence source (e.g., unbiased, academic), accuracy, reliability, completeness, relevance, and sufficiency; Sufficiency focuses on the whether enough high quality evidence exists to be persuasive and/or convincing.

Reflection involves careful evaluation and reconsideration of alternative arguments, quality of evidence, assumptions, interpretations, assessments of importance, and conclusions.

Uncertainties can relate to many aspects of the problem, including the problem definition, availability of solution alternatives, quality and interpretation of information, effects of alternatives, priorities and values of the decision maker and others, and so on. **Temporary uncertainties** relate to conditions that will become known in the future (e.g., experts will find the answer, information will become available, or effects will be knowable).

Viewpoints/perspectives can relate to any type of grouping that is meaningful to the problem, such as categories of people, cultures, societies, roles, races, genders, hierarchies, theories, concepts, ideas, beliefs, attitudes, physical locations, time, disciplines, values, or emotions.

Reading Department Rubric for CSUF Critical Thinking Goals-Draft August 15, 2006

Critical Thinking Goal	Level 0	Level 1	Level 2	Level 3/4
Clarify the facts, concepts, evidence ^A and other forms of support for a position	<ul style="list-style-type: none"> Provides very limited support for OWN thesis, primarily unexamined prior beliefs, clichés, expert opinions, or quotes Fails to acknowledge and/or provide support for thesis OTHER THAN OWN if viewed as “incorrect” 	<ul style="list-style-type: none"> Explains support for OWN thesis, but uses superficially understood evidence Fails to acknowledge and/or provide support for thesis OTHER THAN OWN, or provides less compelling evidence and then discounts it 	<ul style="list-style-type: none"> Investigates a range of evidence supporting multiple viewpoints^C Uses carefully evaluated evidence to reason logically for a GIVEN thesis Provides inadequate support for OWN thesis in light of reasonable alternatives and/or uncertainties 	<ul style="list-style-type: none"> Focuses on the most important^B relevant evidence and investigates evidence supporting multiple viewpoints^C Uses carefully evaluated evidence to reason logically in support of own thesis; provides reasonable and substantive justification for interpretations Articulates how a systematic process of critical inquiry was used to build a position
Evaluate the quality ^D (i.e., the relevance, reliability, and sufficiency) of evidence and other forms of support for a position	<ul style="list-style-type: none"> Relies on evidence believed to be “correct,” disregarding quality Repeats evidence or other forms of support from authoritative sources, taking it as truth 	<ul style="list-style-type: none"> Relies on poor quality evidence Superficially interprets evidence as either supporting or not supporting a position Equates unsupported personal opinion with other forms of evidence Focuses on quantity rather than quality of evidence when evaluating sufficiency 	<ul style="list-style-type: none"> Evaluates the quality of evidence, addressing both strengths and weaknesses Considers the context of the problem when analyzing the quality of evidence 	<p>In addition to Level 2:</p> <ul style="list-style-type: none"> Emphasizes evidence having the highest quality Develops viable strategies for addressing important^B limitations of available evidence
Revise arguments and findings based on critical reflection ^E	<ul style="list-style-type: none"> Focuses on correctness of position, or changes position if “learns” that another position is the “right” one 	<ul style="list-style-type: none"> Focuses primarily on reinforcing original position, or changes position due to a concrete evidence that another alternative is better 	<ul style="list-style-type: none"> Explores alternative interpretations of evidence and/or alternative viewpoints^C Additional analysis reduces ability to strongly support a single thesis 	<ul style="list-style-type: none"> Acknowledges limitations of own analysis and thesis Systematically reevaluates evidence and conclusions to address limitations, consider new circumstances, reach a better solution, or achieve greater confidence
Communicates logical, organized, and focused thinking appropriate for audience	<ul style="list-style-type: none"> Uses contradictory or illogical arguments; lacks organization Uses poor or inconsistent communication; does not appear to recognize existence of an audience 	<ul style="list-style-type: none"> Fails to sufficiently break down the problem or explore multiple perspectives^C Makes comments that appear to lack objectivity (e.g., uses pejorative language when referring to others’ arguments/views) 	<ul style="list-style-type: none"> Organizes information and concepts into viable framework for exploring realistic complexities of the problem Uses objective tone by avoiding biased language Provides unnecessary detail due to inability to prioritize 	<ul style="list-style-type: none"> Organizes information using criteria that apply across different viewpoints^C and allow for qualitative comparisons Uses communication that is appropriately designed for the setting and audience (e.g., objective tone, understandable terminology, appropriate detail, anticipates audience needs/questions)

[Definitions are omitted here]

Customized Rubric for an Assignment

This rubric was designed by Susan Wolcott to assess and grade a classroom assignment in a junior-level cost accounting course. Students were evaluated on two criteria in addition to critical thinking skills. The “weak” column corresponds to Performance Pattern 0, “average” corresponds to Performance Pattern 1, and “professional” corresponds to Performance Patterns 2 and 3.

Professor Instructions: Circle the relevant descriptions and assign points for each criterion (i.e., row). If a student’s performance for a criterion spans two columns, assign points accordingly.

	Weak	Average	Professional
Computations and Data Schedule Maximum 30 points Points Earned: __	Up to 20 points <ul style="list-style-type: none"> • Fails to correctly distinguish between relevant and irrelevant costs • Fails to adjust cost data for number of months • Fails to present data schedule, or presents schedule that is difficult to understand 	25 points <ul style="list-style-type: none"> • Correctly distinguishes between relevant and irrelevant costs • Adjusts costs data for number of months, but provides no justification for method used • Presents data schedule, but fails to provide supporting details for calculations 	Up to 30 points <ul style="list-style-type: none"> • Correctly distinguishes between relevant and irrelevant costs • Applies & justifies a reasonable approach for adjusting costs data for number of months • Presents data schedule, along with supporting details; schedule and details are easy to understand
Written Communication Maximum 30 points Points Earned: __	Up to 20 points <ul style="list-style-type: none"> • Spelling or grammar errors interfere with understandability • Unprofessional language and/or improper memo format • Difficult to understand; poor organization • Fails to explain calculations, relevant information, and/or recommendations 	25 points <ul style="list-style-type: none"> • Minor spelling and/or grammar errors, which do not interfere with understandability • Uses proper memo format, but uses some unprofessional language • Organizes memo into paragraphs that enable reader to understand calculations, relevant information, and recommendations 	Up to 30 points <ul style="list-style-type: none"> • No spelling or grammar errors (or very minor) • Uses proper memo format including useful headings, and uses professional language • Concisely and clearly presents purpose, calculations, relevant information, and criteria/process Janet should use for making her decision
Critical Thinking Maximum 40 points Points Earned: __	Up to 20 points	30 points	Up to 40 points
Overall approach	<ul style="list-style-type: none"> • Focuses primarily on computations in making a recommendation 	<ul style="list-style-type: none"> • Focuses primarily on supporting a single recommendation; appears to ignore or discount information that contradicts the recommendation 	<ul style="list-style-type: none"> • Focuses primarily on providing Janet with the information she needs to make a decision, including criteria for weighing the options
Identification & analysis of relevant information	<ul style="list-style-type: none"> • Makes erroneous statements about costs and/or qualitative factors 	<ul style="list-style-type: none"> • Correctly interprets cost data and addresses at least some qualitative factors 	<ul style="list-style-type: none"> • Correctly interprets cost data and incorporates a wide range of cost and qualitative factors that were not explicitly presented in the assignment
Identification of uncertainties/risks	<ul style="list-style-type: none"> • Does not appear to recognize uncertainty about the costs and/or qualitative factors 	<ul style="list-style-type: none"> • Identifies at least some uncertainties exist about the costs and/or qualitative factors 	<ul style="list-style-type: none"> • Describes a range of important issues & risks that Janet should consider

Practice Designing Customized Rubric

ACTIVITY

- Use Template to Develop a Customized Rubric for Your School/Department/Course/Assignment
- Circle Parts of the Template You Might Like to Use

▶ INVITATION

- Let me know if you would like to see additional skills on the template!

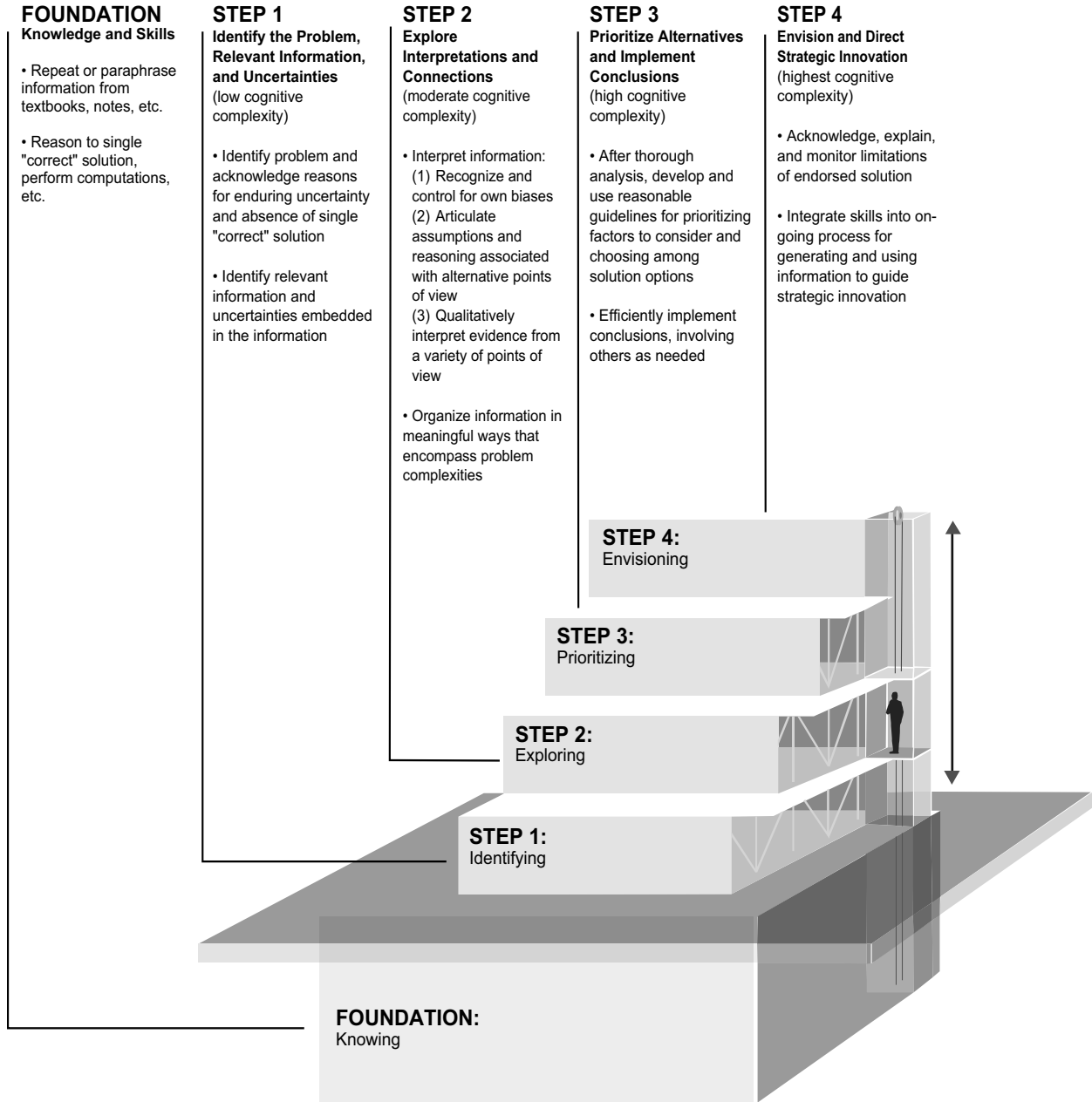
Closing the Assessment Loop

- ▶ Focus on Desired Skills
 - Example: Steps for Better Thinking
Main Handout p. 17
- ▶ Explicitly Link Assessment to Development of Skills
 - Main Handout, p. 18
- ▶ Design Assignments/Tasks to Address “Next Steps”
 - Main Handout, pp. 19–23



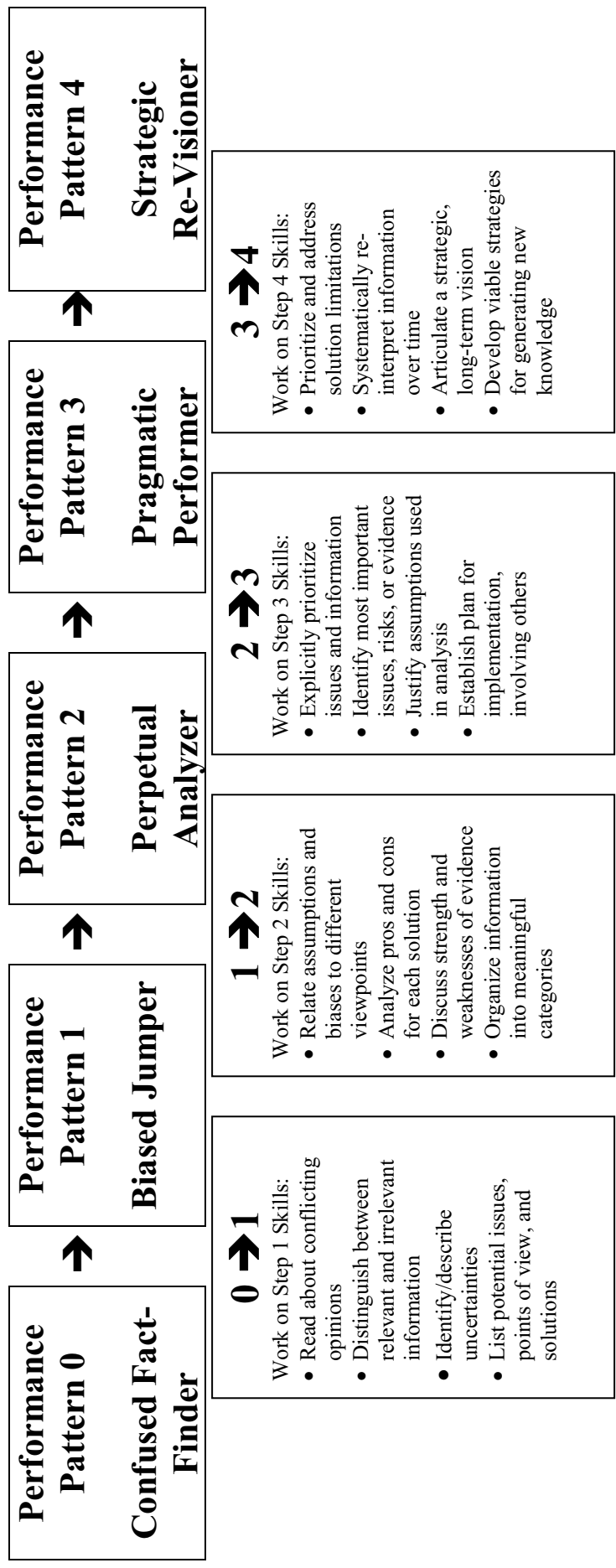
STEPS FOR BETTER THINKING

A Developmental Problem Solving Process



© 2006, Susan K. Wolcott. All rights reserved. Materials herein may be reproduced within the context of educational practice or classroom education, provided that reproduced materials are not in any way directly offered for sale or profit. Please cite this source: Wolcott, S. K. (February 9, 2006). Steps for Better Thinking: A Developmental Problem Solving Process [On-line]. Available: <http://www.WolcottLynch.com>. Model evolved from ideas presented in King and Kitchener's (1994) reflective judgment model of cognitive development and Fischer's (Fischer & Bidell, 1998) dynamic skill theory.

Linking Assessment to Teaching & Learning: Specific Learning Activities to Promote Improved Thinking Skills



For more ideas, see *Templates for Designing Assignment Questions* on the next page.

Templates for Designing Assignment Questions

←Less Complex Skills	More Complex Skills→		
Step 1—Identifying	Step 2—Exploring	Step 3—Prioritizing	Step 4—Re-Visioning
<p>Identifying Relevant Information:</p> <ul style="list-style-type: none"> * List data or types of information relevant to _____ * Identify relevant information in _____ (a textual passage such as a case, article, or piece of literature) * Identify or access relevant theories, laws, standards, or rules for _____ * Identify factors or issues related to _____ * Identify various potential points of view or solutions to _____ * Describe arguments in favor of _____ <p>Identifying Uncertainties:</p> <ul style="list-style-type: none"> * Describe uncertainties concerning _____ * Identify and describe uncertainties about the interpretation or significance of _____ * Identify risks associated with _____ 	<p>Interpreting Information From Multiple Viewpoints:</p> <ul style="list-style-type: none"> * Describe the pros and cons (or advantages/disadvantages, or strengths/weaknesses) of _____ * Analyze the costs and benefits of _____ * Explain how ambiguities affect your analysis of _____ * Identify assumptions associated with _____ (a point of view or alternative) * Interpret _____ from the viewpoint of _____ * Appropriately use _____ (a technique) to analyze _____ * Objectively evaluate _____ information * Explain how alternative solutions might affect _____ (one or more individuals, organizations, groups, or other stakeholders) * Analyze the quality of information and evidence related to _____ 	<p>Prioritizing and Concluding:</p> <ul style="list-style-type: none"> * Develop and use reasonable guidelines for drawing conclusions regarding _____ * Assess the amount of uncertainty (or degree of risk) of _____ * Objectively consider _____ when making a decision about _____ * Prioritize _____ * Consider _____ in reaching a conclusion * Develop reasonable recommendation for _____ * Address the costs and benefits of _____ in reaching a conclusion about _____ * Develop reasonable policies for _____ * Develop an effective plan for addressing _____ <p>Effectively Involving Others in Implementation:</p> <ul style="list-style-type: none"> * Take actions to implement the best solution to _____ * Organize _____ (a communication) so that it is meaningful to the receiving party * Communicate _____ effectively for _____ (a given setting and audience) 	<p>Acknowledging Limitations:</p> <ul style="list-style-type: none"> * Identify and describe potential future developments in _____ * Describe limitations to a recommendation about _____ * Strategically/proactively consider contingencies and future developments related to _____ <p>Creating and Monitoring Strategies</p> <ul style="list-style-type: none"> * Develop and monitor strategies for _____ * Implement appropriate corrective action for _____ over time * Acknowledge changing circumstances and reconsider _____ (a solution) as appropriate * Continuously monitor and update _____, as needed * Develop strategic uses of _____ * Manage _____ under changing or unusual demands * Apply continuous improvement principles to _____

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Examples of Open-Ended Problems and Potential Questions

Topic (Subject) and Potential Scenario Given to Students	Examples of Open-Ended Questions Addressing Different Aspects of Steps for Better Thinking		
	Step 1	Step 2	Step 3
<p>Accounting for Bad Debts: Give students a scenario in which a company uses credit reports and other information to make credit decisions. In the scenario, the company has experienced an unexpected increase in bad debts.</p>	<ul style="list-style-type: none"> Identify and explain possible reasons why management might not foresee an increase in bad debts. Explain why credit reports can't be used to know for sure which customers will pay and which will become bad debts. 	<ul style="list-style-type: none"> Discuss the strengths and weaknesses of using credit reports to make credit decisions. Given bad debt problems, discuss the pros and cons of extending credit to customers. 	<ul style="list-style-type: none"> Analyze the company's credit policies and recommend improvements to management. Develop a plan for monitoring the performance of the company's credit policies and practices.
<p>Education—Effectiveness of the Public Schools: You are the leader of a community task force that has been asked to establish strategies for evaluating the effectiveness of the public schools in your metropolitan school district. The task force has received very different recommendations from two national experts. One focuses on the use of standardized, norm referenced test scores. The other includes a wider range of alternative indicators, such as curricular innovations, portfolios, and satisfaction ratings.</p>	<ul style="list-style-type: none"> How is it possible for two national experts to give very different recommendations for evaluating public school effectiveness? Identify resources that will help you evaluate the two recommendations. 	<ul style="list-style-type: none"> What are the pros and cons for each recommendation? Who are the various stakeholders for the work of the task force? For each stakeholder group, discuss whether the group is likely to have a preference for one of the two recommendations. 	<ul style="list-style-type: none"> Develop a plan for the work to be performed by the task force. Explain the reasons for the design of your plan. Which expert recommendation do you think is better? How did you prioritize issues in arriving at your conclusion? Assume that the school district adopts the recommendations of the expert you consider to be better. Explain how the school district could use the evaluation results over time to improve educational effectiveness.
<p>Communication (Any Course): Give students a scenario in which they need to prepare a written communication for a specific audience.</p>	<ul style="list-style-type: none"> Prepare a list of information that might be appropriate to include in the communication. Explain why uncertainties exist about the best way to communicate to the audience. 	<ul style="list-style-type: none"> Describe the information needs of the audience. Describe the pros and cons of including one or more pieces of information in the written communication for this audience. 	<ul style="list-style-type: none"> Create a written communication for the audience that provides appropriate information for the setting and audience, including recommendations for strategies the audience member(s) might employ to monitor performance or processes in the future. Create a written communication for the audience that provides appropriate information prioritized for the setting and audience.

Examples (continued)

Topic (Subject) and Potential Scenario Given to Students	Examples of Open-Ended Questions Addressing Different Aspects of Steps for Better Thinking			
	Step 1	Step 2	Step 3	
	Step 1	Step 2	Step 4	
<p>Military Law You have just arrived at your first duty station at Grand Forks AFB, ND. You are the missile maintenance squadron section commander. This is your first duty day and while MSGt Big, your first sergeant, is showing you around TSgt Small approaches and says "Sir/Ma'am it's SSgt Loser again. He was 30 minutes late for work this morning and his uniform looks like he slept in it." MSGt Big tells TSgt Small, SSgt Loser's supervisor, to have SSgt Loser report to your office in 10 minutes. Welcome to North Dakota!</p> <p>You meet with SSgt Loser who tells you that he overslept. He also explains that his wife just left him and she did all his laundry and ironed his uniforms. You dismiss SSgt Loser and tell him to put on a proper uniform and you will deal with him later when you have more facts.</p> <p>Meanwhile, MSGt Big has told me, the Commander, about SSgt Loser. I come to your office, welcome you to North Dakota, tell you to find out what's up with SSgt Loser and give me a recommended course of action.</p> <p>SSgt Loser does not show up for work the next day and is nowhere to be found.</p> <p>Pertinent sections of the UCMJ and maximum punishment tables are appended to your textbook.</p> <p>Adapted from a problem developed at the U.S. Air Force Academy</p>	<ul style="list-style-type: none"> • What are your options? • What else do you need to know before making your recommendation and why do you need to know it? 	<ul style="list-style-type: none"> • Do you have any personal beliefs or assumptions that may interfere with your ability to make an objective recommendation? If so, what are they and how did you overcome them? • What are the arguments for and against each possible recommendation? 	<ul style="list-style-type: none"> • What is your recommendation? What is the basis for your recommendation? How did you decide between the various options available to you? 	<ul style="list-style-type: none"> • What are the limitations of your recommendation? Is it possible to minimize the effects of those limitations?

Examples (continued)

Topic (Subject) and Potential Scenario Given to Students	Examples of Open-Ended Questions Addressing Different Aspects of Steps for Better Thinking		
	Step 1	Step 2	Step 3
<p>Health Care—Elderly Patient Tiny Miss Ruth sat hunched without words in her wheelchair, living the final stages of Alzheimer’s-like dementia. Her 91-year-old hands slid over the beautiful but slick cover of Birds and Blooms magazine. Birds, gardening, and reading had always been her interests. Now she couldn’t read or talk about her favorite topics; she couldn’t even hold the magazine. This frustrated and angered her! She flailed and she hummed, communicating her agitation. Quietly and with a very heavy heart, I watched, saying little but thinking much. “What might I do to improve her quality of life?”</p>	<ul style="list-style-type: none"> • What have you observed about Miss Ruth and her situation? • What is currently being done to care for Miss Ruth? • What does current literature say about caring for people like Miss Ruth? • What theories and evidence are available? • Do different facilities provide different kinds of care for people like Miss Ruth? If so, why don’t they all provide the same kind of care? • Who has input into the care Miss Ruth receives? • Why might these people view her needs and care differently? • What factors might you need to consider as you explore this problem? 	<ul style="list-style-type: none"> • What biases and assumptions might affect how you view this situation, and how might you compensate for your biases? • Evaluate evidence from the literature and from your observations of Miss Ruth’s situation from a variety of perspectives, including a traditional maintenance model of care, a restorative model of care, the perspective of her family members, the nursing home administrator, nursing director, and social worker. • What are the similarities/differences across the different perspectives about how to care for Miss Ruth? • How might you organize your analyses to help you reach a conclusion about the best way to care for Miss Ruth? 	<ul style="list-style-type: none"> • What priorities have you given to different factors that must be considered in deciding how to care for Miss Ruth? • Why do you believe those priorities are most appropriate? • Given those priorities, what do you recommend regarding Miss Ruth’s care? • How will you present your ideas to those who are interested in her care? • How might you deal with people’s different assumptions and biases if you were part of a team that would decide about Miss Ruth’s care? • Do you anticipate any disagreement? If so, how will you deal with that?
	<ul style="list-style-type: none"> • As you work with Miss Ruth, what additional information do you want to gather? • Why is this information important? • How can you go about getting that information in a systematic fashion? • What might cause you to reconsider Miss Ruth’s care plan? 		

Examples (continued)

Examples of Open-Ended Questions Addressing Different Aspects of Steps for Better Thinking	
Topic and Potential Scenario Given to Students	Step 1 Step 2 Step 3 Step 4
<p>Hong Kong Dollar—Introduction to Business Course Read the following two articles:</p> <ul style="list-style-type: none"> • “Deutsche Bk Calls For 20% HK Dlr Devaluation, Then Float,” by Liz Rudall and Raymond Tsoi, <i>Dow Jones Newswires</i>, January 30, 2003. • “What’s in a Peg?” <i>The Economist</i>, October 31, 2002. <p>Self-Made Man—History course Background: During the late nineteenth-century, the United States experienced tremendous economic growth in its manufacturing sector. This occurrence was both the cause and result of large-scale immigration from Europe and the emergence of the modern corporation which came to dominate the business community. For a few, vast fortunes were being made. For some, there was a rise to middle-class prosperity. For many, life was a struggle near or in economic poverty.</p> <p>Given this background, this became the question: How did one account for the great inequalities of wealth? What was the explanation for why some people prospered so greatly while others struggled? For some the answer was given in a set of ideas collectively known as the “self-made man” theory, (also commonly known as the theory of “rugged individualism.”)</p>	<p>Step 1</p> <ul style="list-style-type: none"> • Identify and discuss uncertainties about whether the HK dollar should be delinked. • In one paragraph, explain why there are uncertainties about whether theories such as the “self-made man” theory provide good descriptions of historical events. <p>Step 2</p> <ul style="list-style-type: none"> • Discuss pros and cons of delinking the HK dollar. • In two-to-three paragraphs discuss the validity of the “self-made man” theory by noting both the praise and the criticism made of it. • In one page, discuss how your own personal work history (or someone in your family) relates to the principles of the “self-made man” theory. Do you find the theory to be accurate or not? Why? <p>Step 3</p> <ul style="list-style-type: none"> • Should the HK dollar be delinked from the U.S. dollar? Explain what was most important in reaching your conclusion. • In one page, cite the principles of the “self-made man” theory which are the most or least valid. Explain. <p>Step 4</p> <ul style="list-style-type: none"> • Discuss whether it would be possible for you to change your mind about this question in the future.