OVERVIEW: How to Help Your Students Become Better Critical Thinkers

Live webinar

Thursday, July 30, 2020

1

Today's speakers

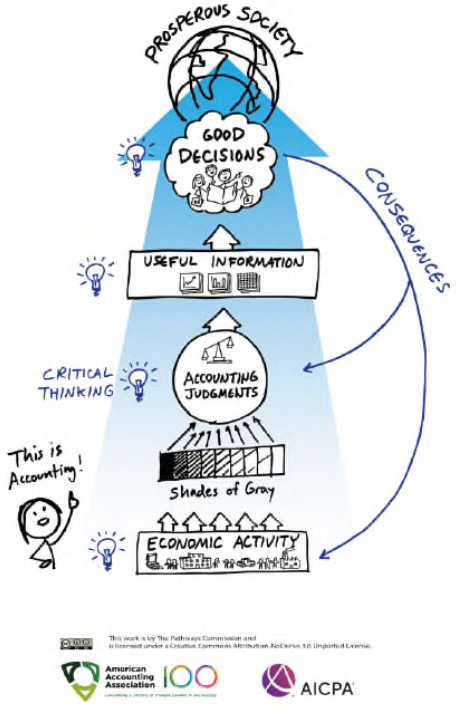
Susan K. Wolcott, PhD, CPA, CMA
Independent Scholar
Wolcott Lynch

Steve Matzke
Director, Faculty & University Initiatives
AICPA

2

- Define critical thinking
- Identify common student strengths and weaknesses
- Recognize effects of student cognitive development
- Explore models and effective teaching and learning strategies
- Discussion/Questions

3



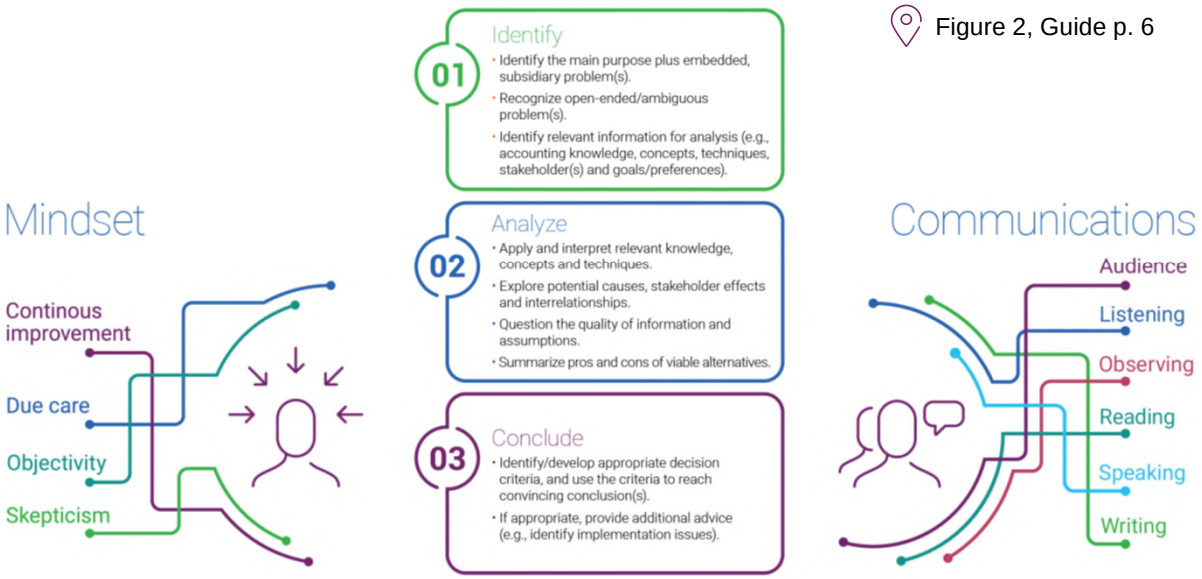
One Way to Identify Critical Thinking Objectives:

Pathways Vision Model

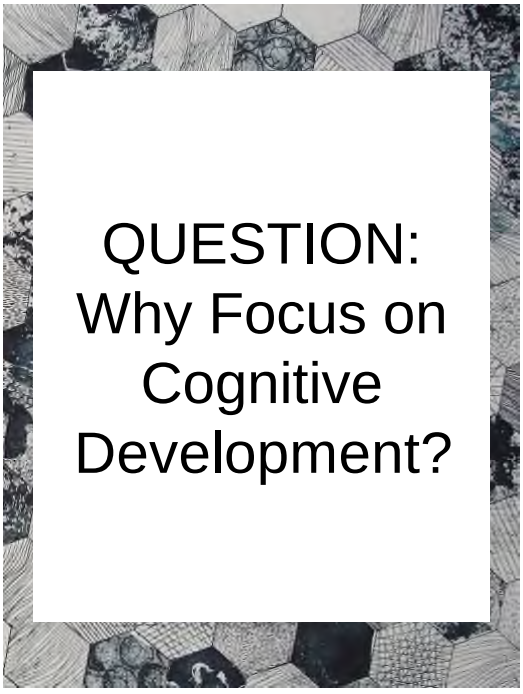
Source: https://linktr.ee/AICPA

4

Critical Thinking Model



5

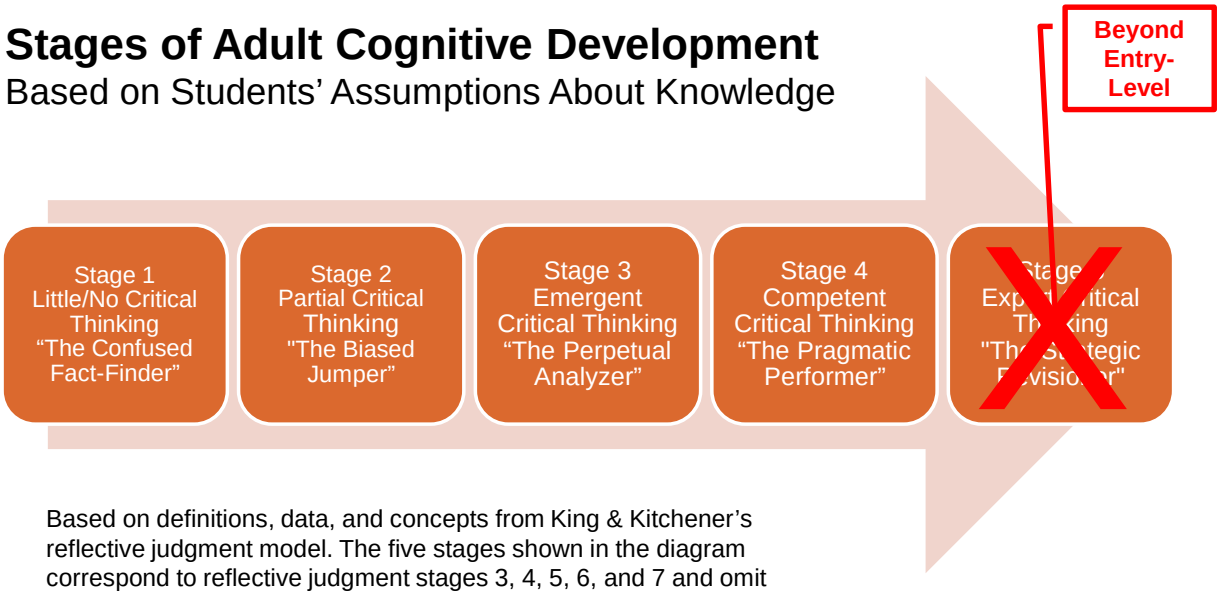


QUESTION: Why Focus on Cognitive Development?

6

Stages of Adult Cognitive Development

Based on Students' Assumptions About Knowledge



Based on definitions, data, and concepts from King & Kitchener's reflective judgment model. The five stages shown in the diagram correspond to reflective judgment stages 3, 4, 5, 6, and 7 and omit pre-adult performance.

7

Excerpts adapted from Figure 4, Guide p. 9

KEY Beliefs That Hinder Progress to Next Stage

- All problems are "black and white"
- The student's job is to find the correct answer as provided by experts

- Open-ended problems cannot be solved by anyone, including "experts"
- It is sufficient to generate arguments to support one's own position

- Supporting one conclusion denies the legitimacy of other valid viewpoints

- Open-ended problems can be solved tentatively and pragmatically based on available information
- No generalized principles or procedures exist for further investigation/ improvement

At Each Stage: Students will not develop higher-stage critical thinking skills until beliefs change

8

How Do Student Beliefs Translate Into Critical Thinking Performance?

9

Figure 20: Critical Thinking Skills Rubric for Stages 1, 2 3, and 4, Guide p. 36

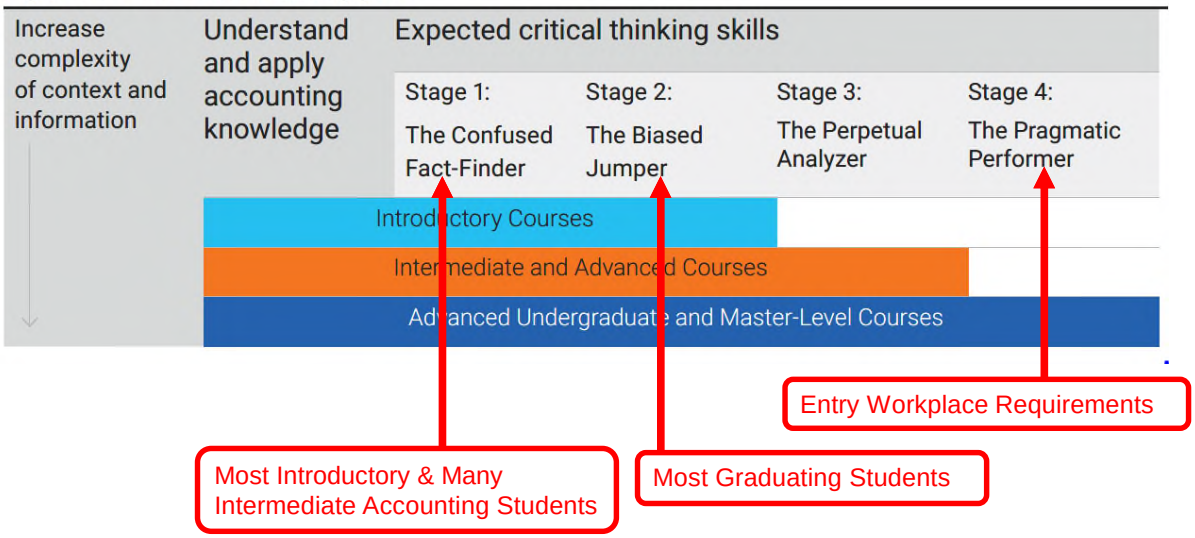
Component of Critical Thinking Model	Stage 1 Little/No Critical Thinking (Confused Fact-Finder)	Stage 2 Partial Critical Thinking (Biased Jumper)	Stage 3 Emergent Critical Thinking (Perpetual Analyzer)	Stage 4 Competent Critical Thinking (Pragmatic Performer)
Identify	• Recites purpose as given, or • Identifies an inappropriate problem	• Identifies the clearly-evident problem • Recognizes that the problem is open-ended/ambiguous	• Identifies the main purpose • Identifies relevant stakeholders and their possible goals/ preferences • Identifies relevant accounting knowledge, concepts and techniques	In addition to Stage 3: • Identifies important embedded, subsidiary problem(s)
Analyze	• Applies calculations, definitions, or other "textbook" concepts • Presents irrelevant information • Misinterprets calculation(s) and/or concept(s)	• Applies and describes the effects of relevant calculations and/or concepts • Partially analyzes alternatives, focusing on information supporting own viewpoint • Discounts other viewpoint(s)	• Thoroughly and objectively applies and interprets relevant calculation(s) and concept(s) • Explores causes, stakeholder effects and interrelationships • Questions the quality of information and assumptions • Thoroughly discusses the pros and cons of viable alternatives	• Objectively analyzes the most important relevant information, implications, consequences and viewpoints • Evaluates the quality of information and assumptions, and adapts interpretations (as needed) • Summarizes the most important pros and cons of viable alternatives
Conclude	• Instead of a conclusion, provides facts, definitions, or other "authoritative" statements	• Reaches a biased conclusion that is consistent with analyses	• Reaches no conclusion, or • Provides a conclusion with little or no justification	• Identifies/develops appropriate criteria, and uses the criteria to reach convincing conclusion(s) • If appropriate, provides value-added advice (e.g., identifies implementation issues)

10

Figure 18, Guide p. 31

"Ideal" Progression vs. Typical Progression

Figure 18: "Ideal" critical thinking goals



Most Introductory & Many Intermediate Accounting Students

Most Graduating Students

Entry Workplace Requirements

11

How Can We Achieve Faster Critical Thinking Growth?

12

Critical Thinking Model

Teach your students a critical thinking model, and use it repeatedly

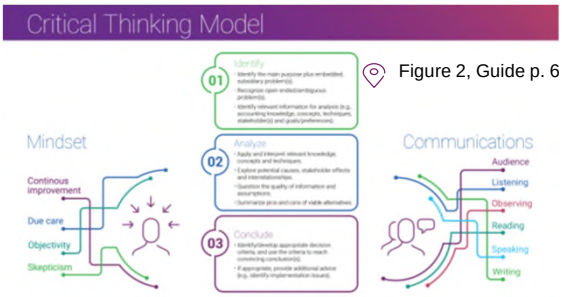


Figure 2, Guide p. 6

13

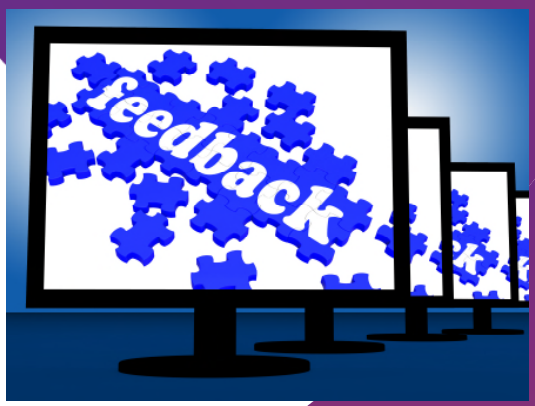
13

Developmental Feedback

Provide students with feedback pointing to next-stage improvements (e.g., use a rubric)

Figure 20: Critical Thinking Skills Rubric for Stages 1, 2 3, and 4, Guide p. 36

Component of Critical Thinking Model	Stage 1 Little/No Critical Thinking (Confused Fact-Finder)	Stage 2 Partial Critical Thinking (Biased Jumper)	Stage 3 Emergent Critical Thinking (Perpetual Analyzer)	Stage 4 Competent Critical Thinking (Pragmatic Performer)
Identify	• Recites purpose as given, or • Identifies an inappropriate problem	• Identifies the clearly-evident problem • Recognizes that the problem is open-ended/ambiguous	• Identifies the main purpose • Identifies relevant stakeholders and their possible goals/ preferences • Identifies relevant accounting knowledge, concepts and techniques	In addition to Stage 3: • Identifies important embedded, subsidiary problem(s)
Analyze	• Applies calculations, definitions, or other "textbook" concepts • Presents irrelevant information • Misinterprets calculation(s) and/or concept(s)	• Applies and describes the effects of relevant calculations and/or concepts • Partially analyzes alternatives, focusing on information supporting own viewpoint • Discounts other viewpoint(s)	• Thoroughly and objectively applies and interprets relevant calculation(s) and concept(s) • Explores causes, stakeholder effects and interrelationships • Questions the quality of information and assumptions • Thoroughly discusses the pros and cons of viable alternatives	• Objectively analyzes the most important relevant information, implications, consequences and viewpoints • Evaluates the quality of information and assumptions, and adapts interpretations (as needed) • Summarizes the most important pros and cons of viable alternatives
Conclude	• Instead of a conclusion, provides facts, definitions, or other "authoritative" statements	• Reaches a biased conclusion that is consistent with analyses	• Reaches no conclusion, or • Provides a conclusion with little or no justification	• Identifies/develops appropriate criteria, and uses the criteria to reach convincing conclusion(s) • If appropriate, provides value-added advice (e.g., identifies implementation issues)



14

14

Design Your Course to Explicitly Focus on Critical Thinking

Figure 5: Course design considerations

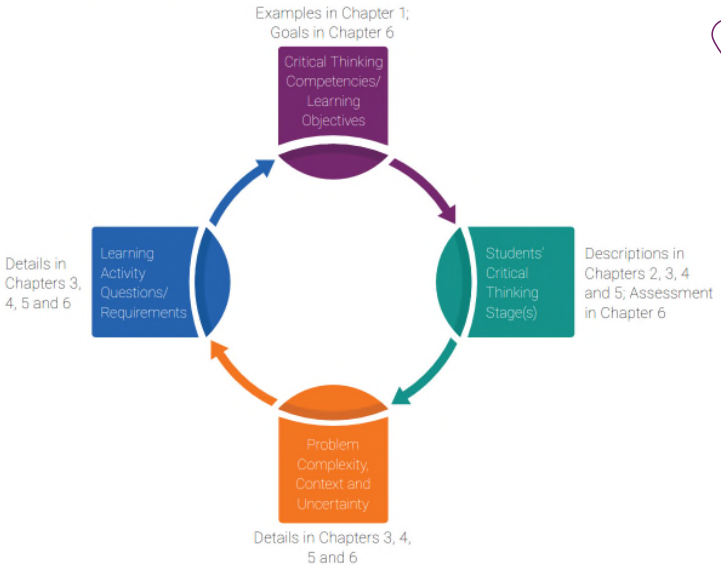
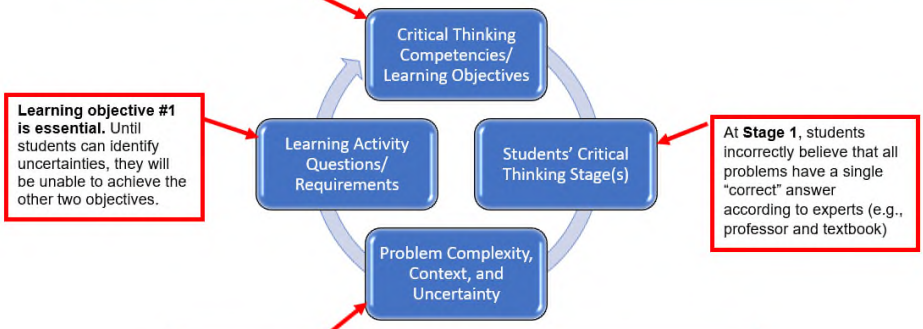


Figure 5, Guide p. 11

15

Assignment Design Considerations for Stage 1 (Confused Fact-Finder)

Stage 1 student should learn to:
1. Identify existence of ambiguities/ uncertainties that prevent a single "correct" answer
2. Recognize that multiple perspectives are valid
3. Form own conclusion and support it with evidence/ arguments



Learning objective #1 is essential. Until students can identify uncertainties, they will be unable to achieve the other two objectives.

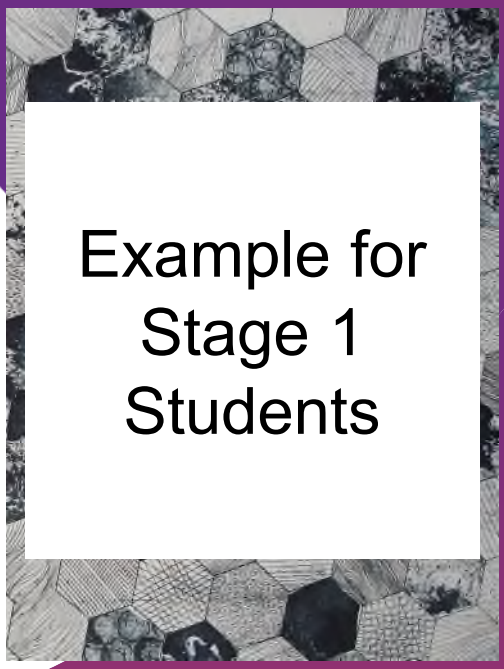
At **Stage 1**, students incorrectly believe that all problems have a single "correct" answer according to experts (e.g., professor and textbook)

Problems should contain (Pathways Vision Model):
- Straightforward, easily understood events and circumstances
- A few sources of uncertainty
- Few accounting judgments
- Information that is either useful or not useful (i.e., relevant or not relevant)
- Few stakeholders and uncomplicated decisions
- Few consequences and clear-cut cause and effect relationships

16

Homework, group discussion and/or exam

- Ask students to explain why some aspect of a situation is uncertain
- Such as:
  - Collectability of accounts receivable
  - Forecast of costs

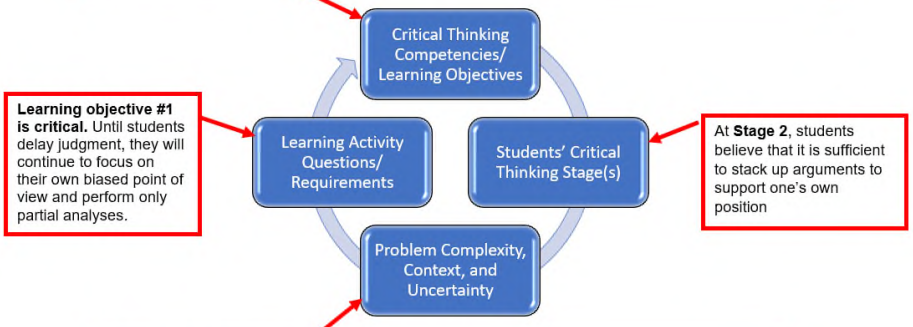


Example for Stage 1 Students

17

Assignment Design Considerations for Stage 2 (Biased Jumper)

Stage 2 student should learn to:
1. Delay judgment until thorough analysis is completed
2. Identify and control biases that interfere with objective and thorough critical thinking
3. Conduct thorough, high-quality analyses from multiple viewpoints



Learning objective #1 is critical. Until students delay judgment, they will continue to focus on their own biased point of view and perform only partial analyses.

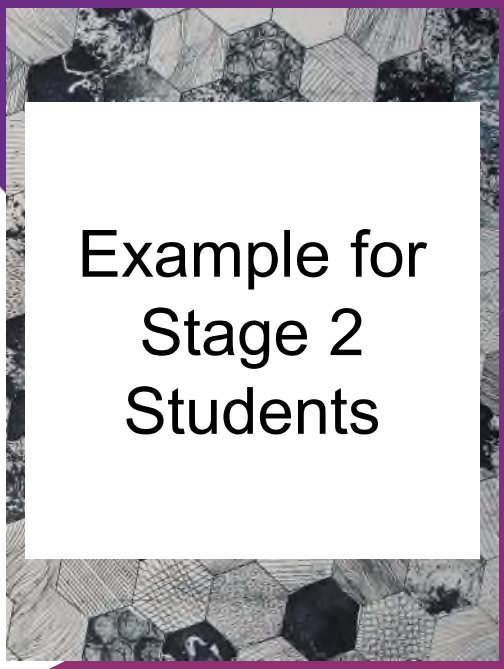
At **Stage 2**, students believe that it is sufficient to stack up arguments to support one's own position

Problems may contain (Pathways Vision Model):
- Moderate scope and interaction of events and circumstances
- Multiple sources and degrees of uncertainty
- Several accounting judgments
- Questions about the degree of information usefulness
- Multiple stakeholders and decisions involving multiple factors
- Some uncertain cause and effect relationships

18

Graded homework and/or exam

- Place significant grade weight on thoroughness of analysis
- Place little grade weight on existence of conclusion



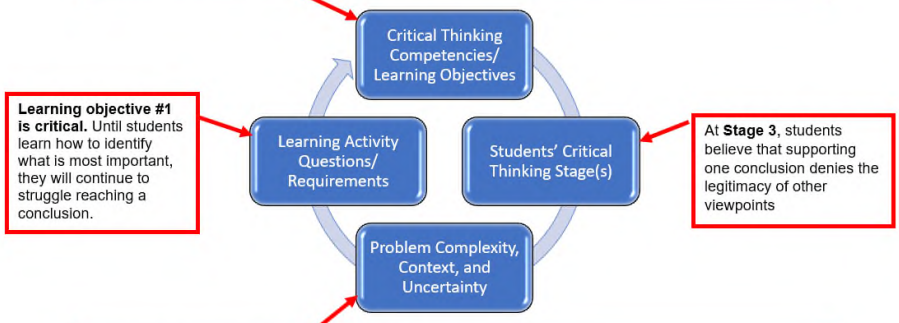
Example for Stage 2 Students

19

Assignment Design Considerations for Stage 3 (Perpetual Analyzer)

Stage 3 student should learn to:

1. Focus on the most important information, stakeholders, and consequences for the situation
2. Tentatively solve complex problems in a pragmatic way using available information
3. Develop and apply decision criteria to reach a conclusion



Learning objective #1 is critical. Until students learn how to identify what is most important, they will continue to struggle reaching a conclusion.

At **Stage 3**, students believe that supporting one conclusion denies the legitimacy of other viewpoints

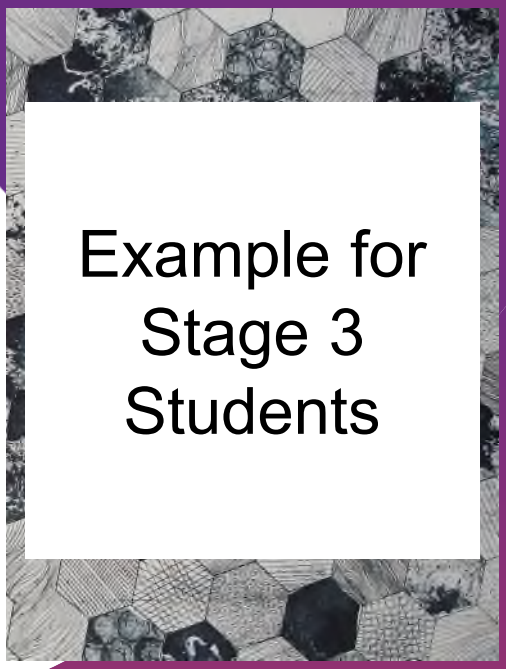
Problems may contain (Pathways Vision Model)::

- Realistic scope of activities that may be highly complex
- Many sources and degrees of uncertainty
- Many accounting judgments
- Many questions about information usefulness
- Many stakeholders with divergent interests and complex decisions
- Many complex and uncertain cause and effect relationships

20

Homework, group discussion, and/or exam

- Ask students to:
  - Identify the most important factors for the situation
  - Use important factors to create and apply decision criteria



21

Resources: https://linktr.ee/AICPA

Email Susan: swolcott@WolcottLynch.com

22

Additional Questions and Discussion

23

Association of International Certified Professional Accountants®

The unified voice of AICPA and CIMA

Thank you

24