CRITICAL THINKING WORKSHOP

"Too often we... enjoy the comfort of opinion without the discomfort of thought."

- JOHN F. KENNEDY
WHY ARE WE HERE?

- Provide a brief background
- Highlight the revised Critical Thinking university learning goal
- Recognize potential barriers to the development of critical thinking skills
- Consider students’ levels of intellectual development and metacognitive insight
- Solicit your insight, suggestions, experiences
- Provide opportunities to collaborate in break-out sessions
Long-term concerns regarding EIU student learning outcomes

- EWP
  - *Construct & analyze arguments is major area of weakness*
  - *32% of papers appear to ask for anything more than summarize*
- Watson-Glaser Critical Thinking Appraisal
  - *Trend past several years: 24.90/40.00 (composite score)*
- Collegiate Learning Assessment (CLA)
  - *24% of EIU seniors were below expectations; 38% well-below expectations for critiquing arguments & writing analytically*
  - *No growth in Making an Argument*
- National Survey of Student Engagement (NSSE)
  - *63% of EIU seniors reported being asked to memorize “very much/quite a bit”*
45% percent of students made no significant improvement in their critical thinking, reasoning or writing skills during the first two years of college.

After four years, 36% showed no significant gains in higher order thinking skills

- *Academically Adrift* (Arum & Roksa, 2011)
- Study followed 2,322 college students between 2005-2009
- CLA & NSSE data
93% of employers surveyed...“a demonstrated capacity to think critically, communicate clearly, and solve complex problems is more important than [a candidate’s] undergraduate major.”

>75% of those surveyed ...”more emphasis on five key areas including: critical thinking, complex problem solving, written and oral communication, and applied knowledge in real-world settings.”

AAC&U Press Release, April 10, 2013

*It Takes More Than a Major: Employer Priorities for College Learning and Student Success*
Council of Academic Affairs University Learning Goals Committee, November 2011

“to review integration, instructional practices, and effectiveness of EIU’s four undergraduate university learning goals (LGs)"

http://www.eiu.edu/learninggoals/pdfs/CAA%2013-83%20CAALearningGoalsCommResolution.pdf

26 committee members:

CAA members, members of College Curriculum Committees, CASL learning goal experts, student government representatives, and other invited faculty members with expertise/interest in the learning goals.
5 SUB-COMMITTEES:

- Writing
- Speaking
- Critical Thinking
- Responsible Citizenship
- Quantitative Reasoning

1. Reviewed learning goal assessment data
2. Reviewed literature for current/model definitions of each area
3. Surveyed relevant research and practitioner literature
4. Examined practices of peer and non-peer institutions
5. Partnered with CASL to look at Critical Thinking in EWP papers
6. Conducted a university-wide faculty survey
7. Reviewed representative general education and major program syllabi
Learning Goals Review Committee

Work Completed:

- Learning Goals Report
  - 100-page report and summary documents

- Presented findings and possible recommendations at 17 councils

- CAA approved 5-year plan
  - “improving student learning outcomes at the university through systemic increase in academic rigor and improvement of curricular, instructional, and assessment practices in both the general education and major programs”
    - CAA Minutes, 04/25/2013, p. 8
    - http://castle.eiu.edu/~eiucaa/2012-13CAA/SP13/05-02-13/Minutes/04-25-13Minutes.pdf
REVISED LEARNING GOALS

Critical Thinking
Writing & Critical Reading
Speaking & Listening
Quantitative Reasoning
Responsible Citizenship

- Approved Jan 16, 2014
- http://www.eiu.edu/learninggoals/revisedgoals.php
How do you define critical thinking?
EIU graduates question, examine, evaluate, and respond to problems or arguments by:

- Asking essential questions and engaging diverse perspectives.
- Seeking and gathering data, information, and knowledge from experience, texts, graphics, and media.
- Understanding, interpreting, and critiquing relevant data, information, and knowledge.
- Synthesizing and integrating data, information, and knowledge to infer and create new insights.
- Anticipating, reflecting upon, and evaluating implications of assumptions, arguments, hypotheses, and conclusions.
- Creating and presenting defensible expressions, arguments, positions, hypotheses, and proposals.
Often used as a source of common language to define learning goals, evaluate objectives & activities, determine clear means of assessment, and support curriculum planning.
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Adapted from Krathwohl, 2002
How do you get students to learn how to think critically?
77% of faculty indicated CT learning goal was strongly related to their course objectives.

~2/3 reported providing explicit teaching to develop critical thinking skills.

Open Comment section:

- 48% referenced students’ resistance, lack of preparation/inability to engage in critical thinking;
- 42% reported the majority of their exam questions were designed for recall and comprehension of information;
- 35% cited difficulty infusing CT expectations into content-heavy courses;
- 31% indicated difficulty assessing critical thinking skills;
- 29% cited practical difficulty infusing CT expectations into intro courses.

(FA ‘12 75-item survey re: instructional practices & student expectations which polled 638 total courses with a 62% response rate)

So, what makes a ‘good’ student?
WHAT DO STUDENTS KNOW ABOUT THINKING, AND IN PARTICULAR, THEIR OWN THINKING?

Metacognition

Knowledge
- Of strategies for learning, solving problems, thinking, reasoning
- Of metacognitive strategies (e.g. plan, monitor, revise, repair)
- Of the nature of task-difficulty, and what is required or expected
- Of one’s own strengths & weaknesses as a budding thinker

Appraisal
- Capacity to attend to, monitor, and evaluate one’s efforts
- Capacity to accurately evaluate & analyze one’s efforts
- Capacity to recognize a need to expand or develop

Regulation
- Potential to engage in deliberate planfulness to alter outcomes
- Potential to adapt to increased demands or expectations
- Potential to shift efforts to correct errors or inconsistencies
- Potential to update self-knowledge, strategy-knowledge, etc.

Flavell, 1979; Livingston, 1997
From YOU TELL ME! ⇒ I can create & defend knowledge.
  - Kurfiss, 1988; Hansen, 2011

Stage 1: Received Knowledge

Students believe:
  - Knowledge = mostly concrete facts, given or told to students
  - Learning = shoving information into brain
  - Proof = regurgitation, summation, or repetition

Challenges:
  - Students depend upon instructor to identify what is important
  - Students become uncomfortable if instructor fails to supply facts or insight ("Is this on the test?")
INTELLECTUAL DEVELOPMENT: EARLY DEFENSES

- **Stage 2: Subjective Knowledge**
  - Students believe:
    - Knowledge = must be subjective opinion
      - (mine vs. yours .... everybody has one)
    - Learning = surface thinking, offering opinions
    - Proof = react, respond, describe
  - **Challenges:**
    - Student perceives poor grades defensively
    - “You just don’t like my ideas/opinions/answers”
    - Students complain that evaluation criteria were unclear
    - “You didn’t say I had to .......”
Stage 3: *Procedural Knowledge*

Students realize:
- Knowledge = more than mere opinion; defensible by reason
- Learning = classify, compare, distinguish, differentiate, analyze
- Proof = integrate, apply, conclude, infer, predict

Challenges:
- Learning is complicated and unfamiliar—endless analysis
- Students are novice thinkers & need deliberate practice
- Assignments may require consideration and revision
- Grading may be more time-consuming, particularly as you evaluate for defensible, well-articulated rationale
Stage 4: *Constructed Knowledge*

- Students realize:
  - Knowledge = *constructed* via evaluation, analysis, conclusion, prediction, expression, & defense of multiple sources & contexts
  - Learning = skillful, refined ability to engage in complex thinking
  - Proof = create, invent, compose

- Challenges:
  - Students may be completely out of comfort zone, ill-equipped
  - Students may be unaware of the level of expectation
  - Students may be fearful, lack self-confidence or self-discipline
  - Time-consuming nature of developing and grading ‘thinking’
How are our students performing?

EIU CAA Learning Goals Review Report 2012-2013

Critical Thinking Data, pp. 34-38

WHAT BARRIERS DO OUR STUDENTS FACE?

Adapted from Paul & Elder, 2009.

Confidence in Reasoning

Intellectual Humility

Intellectual Perseverance

Intellectual Courage

Intellectual Integrity

Intellectual Empathy

Intellectual Autonomy

Habits of a skilled critical thinker

Adapted from Paul & Elder, 2009.
EIU Faculty Survey, Fall 2012

- **Content-Heavy Course (35%)**
- **Difficult to Assess CT (31%)**
- **Intro Course—Facts (29%)**
- **Time Consuming (18%)**
- **Class Size (18%)**
- **CT is Assumed (17%)**
- **CT Not Relevant to Course (6%)**
- **Negative Feedback? (4%)**
- **How to Teach CT? (4%)**
- **Developing CT Not Important (2%)**
WHAT ARE WE ASKING OUR STUDENTS TO DO?

Faculty Reporting on the Nature of their Exams & Writing Assignments

- Write to REFLECT: 42%
- RECALL on Tests: 31%
- Write to SUMMARIZE: 25%
- ANALYZE on Tests: 50%
- Write to INTERPRET: 40%
- SYNTHESIZE on Tests: 30%
Are students aware they are being asked to think critically?

Do students have the tools to develop intellectually?

What level of thinking do class assignments demand?

Can assignments be adapted to require more complex levels of thinking?
What causes your students’ Ah-HAH moment?
BREAKOUT SESSIONS
What’s your most successful critical thinking assignment?
How do you elicit discussion, debate, and analysis?
How do you write test questions that go beyond memorization?
CASE-BASED LEARNING

How do you make use of case-based learning opportunities?
REMARKS FROM BREAK OUT SESSIONS
CT RUBRICS: OPTIONS TO CONSIDER

- AAC&U Critical Thinking Rubric
- Kansas State University Critical Thinking Rubric
- Northeastern Illinois University Critical Thinking Rubric
- Portland State University Holistic Critical Thinking Rubric
- St. Petersburg College Critical Thinking Rubric
  - http://www.google.com/cse?cx=006264536472336337462%3Agtkyth6q_bk&ie=UTF-8&q=ARC+assignment+profile&sa=Search#gsc.tab=0&gsc.q=ARC%20assignment%20profile&gsc.page=1
- Temple Critical Thinking Rubric
- University of Minnesota—Duluth Critical Thinking Rubric
- University of Louisville Critical Thinking Rubric for Mathematics
  - https://louisville.edu/provost/GER/rubrics/Math_Rubric.pdf
- Washington State University Guide to Critical & Integrative Thinking Rubric
REFERENCES


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