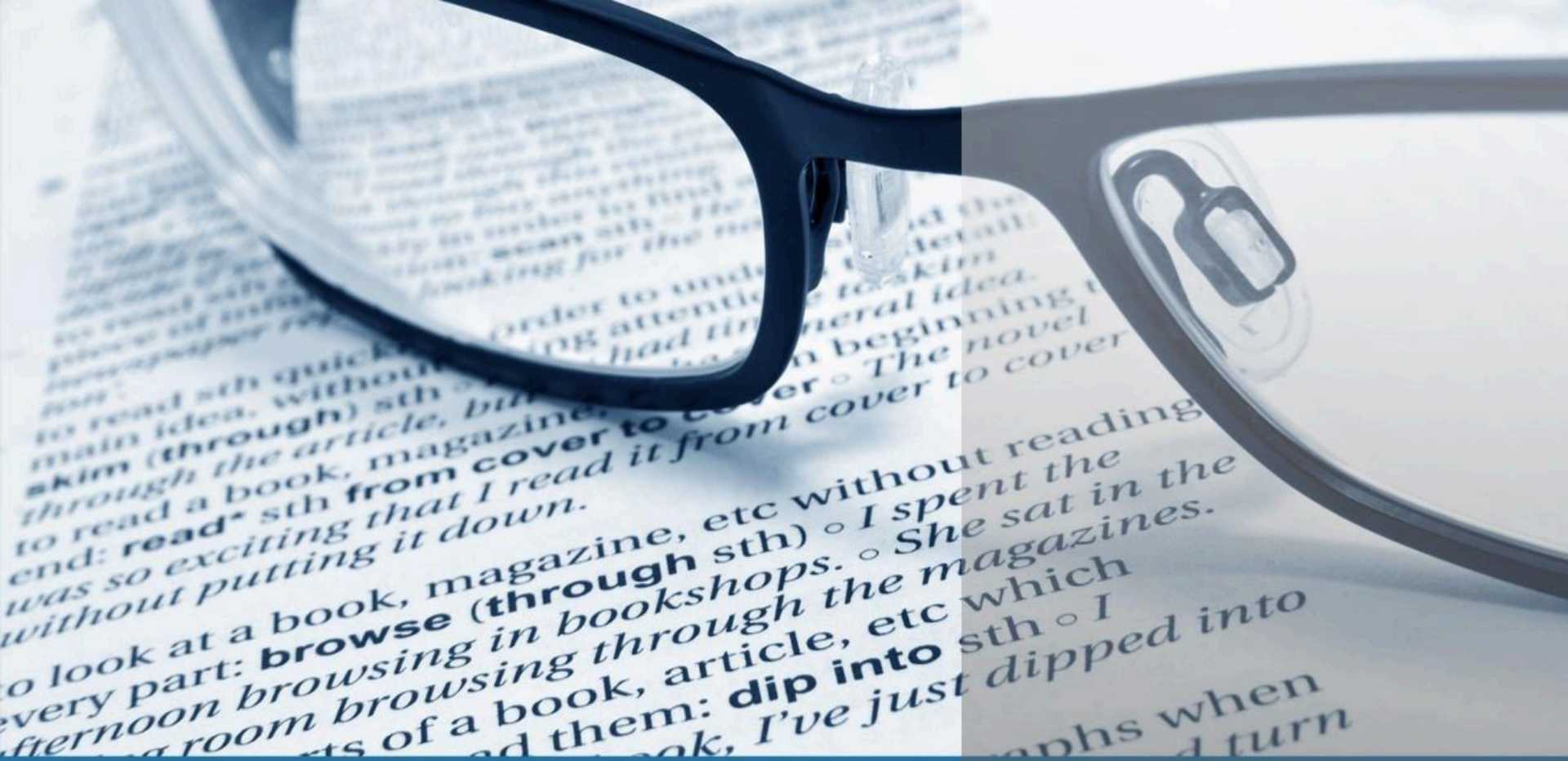


All about Critical Thinking (CT) Skills: Lessons from E-Teacher Training Course University of Oregon

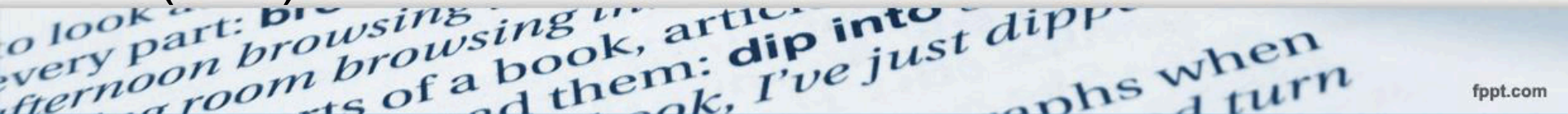
Ribut Wahyudi [UIN Maulana Malik Ibrahim, Malang] TEFLIN UWM 2012

Course Objectives

- To understand and explain critical thinking concept and patterns
- Identify relevant sources for developing and using critical thinking
- Apply critical thinking to classroom teaching
- Materials development: re-design and implement instructional units and lesson plans with activities that require critical thinking'

Length of the Course

- 10 Weeks: June 25 – August 31, 2012.
- Members: 25 teachers and lecturers from different countries.
- **The materials cover**: orientation to course (W1), frameworks for CT(W2), Intellectual standards and Socratic methods (W3), lesson plan and instructional strategies, CT Objectives (W4)



Conts…

- preparing to re-design instruction to include CT(W5), teacher self assessment, developing intellectual traits (W6), assessment formative and summative (W7), constraints on teaching CT, student self assessment (W8), self assessment and reflection (W9) and course wrap-up (W10)

The Definition of CT

- CT is ‘’correct thinking in the pursuit of relevant and reliable knowledge about the world’’
- It is ‘’reasonable, reflective, responsible, and skillful thinking’’
- It also means ’’higher order thinking’’ (Schafersman, 1991)
- What is *higher order thinking* ?

Revised Bloom's Taxonomy

- The structure knowledge dimension: factual knowledge (basic elements; terminology, specific details), conceptual knowledge (Interrelationship among basic elements; classification or categories), procedural knowledge, and meta-cognitive knowledge.
- The structure of cognitive process: remember, understand, apply, analyze, evaluate and create.
  (Krathwohl, 2001)

From left → right: lower→ higher order thinking.

Universal Intellectual Standards: exploration through questions

- Clarity: could you elaborate that further?
- Accuracy: how could we test that?
- Precision: could you be more specific?
- Relevance: how does that relate to the problem?
- Depth: what factors make this a difficult problem?
- Breadth: do we need to look at this in other ways?
- Logic: do all these make sense together?

(Paul, Richard & Elder in www.criticalthinking.org)

Criteria for Evaluating Reasoning

- Purpose: is the purpose clearly stated? Justifiable?
- Question: is the question clear and unbiased?
- Information: does the writer cite relevant evidence?
- Concept: does the writer clarify the key concepts where necessary?

Conts…

- Assumption: does the writer show a sensitivity to what he is taking for granted or assuming?
- Inferences: does the writer develop a line of reasoning well before arriving at the conclusion?
- Point of view: does he consider and respond other point of view?
- Implication: does the writer show a sensitivity the implication and the consequence of the position he is taking?

(Paul, Richard & Elder in www.criticalthinking.org)

Essential Intellectual Traits

- Intellectual humility
- Intellectual courage
- Intellectual empathy
- Intellectual autonomy
- Intellectual integrity
- Intellectual perseverance
- Confidence in reason
- Fair-mindedness

(Paul, Richard and Elder in www.criticalthinking.org)

Socratic Questioning

- Spontaneous
- Exploratory
- Focused

(Paul and Elder, 2007)

ABCD Models for Writing Objectives

- A = audience
- B = behavior
- C = condition
- D = degree

e.g. given the symbol representing of a particular isotop of an atom, the students will be able to determine the number of protons, electrons, neutrons in that species, eight out of ten times.

Several Instructional Techniques

- Think-Pare-Share (teacher asks thought provoking questions followed by involving peer interaction etc)
- Concept Test (teacher poses a conceptual question and provide multiple choice answer etc)
- The minute paper (e.g. what was the most important thing you learned today?) etc

(Cerbin,2006)

Re-design Lesson I

- Modifying the existing lesson plan based on the learned CT materials such as:
- Instructional Objectives
- Revised Bloom's Taxonomy
- CT strategy
- E.g See. Re-design Lesson: Mengmeng's and Ribut's work

Re-design Lesson (RL) II

- Revising the RL based on other group's feedback
- Self-Assessment
- E.g. See Mengmeng's RL and Self Assessment's file

Unit Plan

- Collaborative Work on Unit Plan based the learned Unit Plan Materials such as:
- Unit Plan Goals
- CT strategies and activities
- CT assessment (formative and/or summative)
- E.g. See Ferit's and Ribut's work

Revised Unit Plan (RUP)

- After receiving feedback from another group
- Unit Plan Peer Assessment
- e.g. RUP see Ferit's and Ribut's file

Constraints on Teaching CT

CT Action Plan (AP)

- Goals
- Actions
- Resources
- Target date for Achievement
- E.g. Ribut's file

Wrap Up

- CT self assessment
- Reflection on the course
- E.g see Ribut's file

What can we learn from this course?

- CT skills awareness for teachers
- CT skills teaching strategies for students
- etc…

---Thank You---