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## Embedding Critical Thinking in the Curriculum: Research-Oriented Learning Strategies that Foster Engagement, Critical Thinking, and Deep Learning

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## **Embedding Critical Thinking in the Curriculum** Research-Oriented Learning Strategies that Foster Engagement, Critical Thinking, and Deep Learning

Critical Thinking and Information Literacy share the same learning outcomes. Both instruct students on:
1. Identifying, and focusing (and appropriately reformulating) the issue, question, or work assignment;
2. Identifying and considering the influence of context and assumptions, including biases;
3. Presenting, assessing, and analyzing appropriate supporting data or evidence/sources;
4. Integrating diverse relevant perspectives;
5. Developing, presenting and communicating own perspective, hypothesis, or position;
6. Identifying and assessing conclusions and consequences;
7. Communicating effectively in one or more modes. (May include articles, posters, lectures, oral presentations, interviews, websites, consultations, discussions, demonstrations, performances, PowerPoint, artwork, film.)

(Corey M. Johnson, Elizabeth Blakesley Lindsay & Scott Walter, 2008) Center for Teaching, Learning, and Technology Washington State University

The connection between information literacy and critical thinking is clear. Both, for example, focus on evaluating the credibility of an information source, and on evaluating evidence of the authoritative nature of a source. Pedagogical similarities between information literacy instruction and critical thinking instruction exist as well in that both are effectively taught through attention to active learning, and both have been highlighted as skills well suited for problem-based learning (Bean 2001; Cheney 2004 in Gradowski, Snavely, and Dempsey 1998).

'A holistic approach to teaching for critical thinking should involve a set of appropriate goal-oriented assessment tasks that enable students to manipulate cognitive skills. **On assessing critical thinking:** 

Critical

Thinking

•Select both formal and informal assessment tasks that enable students to apply problem-solving processes and other dimensions of critical thinking

Assignments should incorporate real-world scenarios
Students must plan around a time frame, gather information, collaborate, and consider feasible alternatives or trouble shoot when they encounter hurdles.

•Certainly a paper that requires students to annotate, outline, summarize, synthesize, contextualize, explore the use of figurative language, identify patterns of opposition and evaluate the logic of arguments before taking a reasoned perspective and arriving at a conclusion will engage students in similar critical thinking processes.' (Jonassen, 2010; Ramsey et al., 2009; Ikuenobe 2001 in Thompson, C., 2011) Though often discussed as separate entities, research has shown that there is a strong connection between the development of critical thinking, problem solving, and information literacy skills (D'Angelo, 2001, p. 303; Johnson, Lindsay & Walter, 2008, p. 236; Weiner, 2012, p. 287).

•Open Ended Assignments : Allow students to think about specific questions related to their own research/projects/assignments. Students may become engaged

'All the Information Literacy Competency Standards for Higher Education (ACRL 2000) **require that students apply critical thinking skills** to their definition of the research question, their evaluation of information that they find, and their use of the information. A key aspect of critical thinking is that students address not only their own perspectives, but also fully understand and address the perspectives of other people involved or affected, as well as the perspectives of the authors of any supporting materials. It is hard to imagine achieving significant information literacy skills without also demonstrating effective critical thinking skills.' (Johnson, C. M., Lindsay, E. B. & Walter, S., 2008).

Information O

Literacy

[The] definition of information literacy reflects many of the common aspects that appear in the accepted definitions of critical thinking, including the ability to identify need, access, critically evaluate, synthesize, and utilize information for the completion of specific purposes (ACRL, 2000).

**Understanding Your Assignment** 

Writing a Thesis Statement

2012, p. 288).

in learning new ideas and begin to own their research.

Break down the research process into assignments: Allow students to see progress and purpose in their work (engagement/motivation); may engage students in deeper reflection and critical thinking; encourage students to take greater ownership of their learning (Hodgson, Paula; Pang, Marco, 2012)
 Shift from Summative to Formative: Provides instructors with an accurate representation of student work and gains in terms of knowledge and skills throughout the course (Vonderwell, Selma; Boboc, Marius, 2013).



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