

# Learning Outcomes Assessment - Critical Thinking

Assessment ID: 195

Assessment Type: General Learning Outcome

Year/Term: 2010 / 2

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Program: Geology

Prefix / Course Number: GEOL / 102

**High Impact Practice (HIP):**

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|--|---|
| <input type="checkbox"/> First Year Experience                       | <input type="checkbox"/> Learning Community                     |
| <input type="checkbox"/> Leadership Training                         | <input type="checkbox"/> Co-Curriculum                          |
| <input type="checkbox"/> University Writing Requirement              | <input type="checkbox"/> Collaborative Assignments and Projects |
| <input type="checkbox"/> Undergraduate Research                      | <input type="checkbox"/> Diversity / Global Learning            |
| <input type="checkbox"/> Service Learning / Community-Based Learning | <input type="checkbox"/> Internship / Practicum / Field Work    |
| <input type="checkbox"/> Performance                                 | <input type="checkbox"/> Portfolio                              |
| <input type="checkbox"/> Capstone Project                            |   |

Learning Outcome: Critical Thinking

Assessment Method/Tool: Rubric

Measurement Scale: 1 - 3

Sample Size: 17

	Developing (# of students)		Adequate (# of students)		Proficient (# of students)	
	#	%	#	%	#	%
1. Identifies and explains issues	3	17.6%	9	52.9%	5	29.4%
2. Recognizes contexts and assumptions	3	17.6%	9	52.9%	5	29.4%
3. Acknowledges multiple perspectives	2	11.8%	11	64.7%	4	23.5%
4. Evaluates evidence to reach conclusions	2	11.8%	9	52.9%	6	35.3%
<b>Averages: (based on <u>17</u> student sample size)</b>	2.5	14.7%	9.5	55.9%	5	29.4%

**Benchmark:** 85% Institutional benchmark goal for percent of students to meet "Adequate" or "Proficient" levels  
 (This institutional benchmark does not take into account the level of the course and the preparedness of the students in the sample. Results will help the institution understand the learning needs of participating students.)

**Percent Achieving Benchmark** 85.3% Actual percent of students meeting "Adequate" or "Proficient" levels

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**Question / Prompt / Assignment:** (used for the assessment) Now that you've watched "A Civil Action," you are ready to participate in a hypothetical trial in which the plaintiff, a La Grande resident who lives just north of the La Grande railroad yard, alleges that diesel fuel from the Union Pacific Railroad locomotives has moved northward into the basement under her house, causing her stomach and bladder cancer. She is asking for damages for pain and suffering as well as the decreased value of her house. This case has moved up the court system and is being heard by a panel of judges. Your job is to sign up to be on: 1) The plaintiff's team, 2) The defendant's team, or 3) The panel of judges. The plaintiff's and defendant's teams will each prepare a brief to be submitted to the court prior to the trial and will present their evidence to the court. The panel of judges will listen to the arguments from both sides and write out a thoughtful and insightful decision on the case, making it clear why the decision was made.

You can use your "Diesel Dollars" to purchase additional data besides the information that is provided with this exercise. Your grade will be based on the time and effort you put into: 1) Researching and preparing your brief (or your written decision if you are a judge), 2) Your presentation in the "court", 3) The evaluations submitted by your classmates after we have finished the exercise, and 4) Your self-evaluation and suggestions on how to make this a better project the next time we try it.

**Commentary / Explanation:** (provide context within the course/activity for the question/prompt/assignment) This exercise gives the students an opportunity to see what it is like to be involved in a court case involving a chemical waste spill like the case they watched in "A Civil Action." The difference is that this involves a real spill here in La Grande that has been the subject of extensive litigation in the past. Although the specific case is imaginary, it could happen.

**Data Analysis: What do these results mean?** (what do the results indicate regarding student proficiency in the outcome assessed) The students got emotionally involved in this exercise and put in a lot of effort preparing the cases they submitted to the court. Cross-examination of witnesses was pointed and incisive. The judges took their job very seriously and made a thoughtful and incisive decision. Many of the students were surprised because they had initially assumed that "Jane Doe's" cancer was caused by the railroad diesel spill, but this proved very difficult to prove. What did they learn? "Not everything is as simple as it looks. Especially not groundwater." "That truth is really hard to get to in a court case." "There are many things to consider when it comes to a lawsuit with a big company." "Specific and backed-up evidence will win a case." "Meticulous research and looking at the smaller parts of the case can make a big difference." "Diesel fuel can cause cancer; defending a case can get wild!" "That all cases that seem fair are fair when you start to look at evidence." "That you should come very prepared if you are in a trial." How geology and geological evidence can play a huge part in resolving cases."

**Closing the Loop:** The students learned that environmental problems like the ones they see in the news and in movies can happen here right where they live. This was the first time I have attempted a role-playing exercise in GEOL 102. It worked very well, so I plan to do it again, incorporating the suggestions for improvement mentioned above. The final exam this year will build on this exercise by bringing home the recently discovery that the spill made famous in the movie Erin Brockovich is still spreading and causing more health problems for the people in the area. How could this happen? Could it happen here in La Grande? What should be done to make sure that it doesn't?

**Student Samples (optional):** (web links to posted, online files)

Developing Example (web address)

Adequate Example (web address)

**NOTE: Student names cannot be used on the samples.**

Proficient Example (web address)