Central Washington University  
Assessment of Student Learning  
Department and Program Report

Please enter the appropriate information concerning your student learning assessment activities for this year.

Academic Year of Report: 2011-2012 College: COTS Department: Geology Program: Geology B.S. and Geology M.S.

1. What student learning outcomes were assessed this year, and why?
We performed two assessment activities in the 2011-2012 academic year:
1. University-wide Reading (GERG) Assessment in introductory (GEOL 107) and senior-level (GEOL 487) courses.
2. Assessment of one learning outcome for our M.S. program in GEOL 502: Students will be able to synthesize and interpret published scientific literature; differentiate data from interpretation.

2. How were they assessed?
For the Reading Assessment, we followed the university’s protocol and scoring rubric (attached). Different reading passages were given to the two groups (introductory students and senior Geology majors), appropriate for their Geology knowledge base. The reading assessment was given out towards the end of the quarter.

The M.S. students were assessed in one of their required first-year courses, GEOL 502, based on a single literature-review assignment. A simple rubric was created for this assessment with the following questions:
1. Does the student outline the relevant geology and synthesize the literature?
2. Is the assignment well organized and properly formatted?
3. Are figures and tables used correctly?
4. Is spelling and grammar correct?
5. Does student write succinctly and clearly?
6. Does the student integrate observations and examples when necessary?
7. Are references complete?
Each question was scored on a scale of 1 to 4 with 4 being the highest.

3. What was learned?
The following tables summarize the results of the writing assessment. Note that we did not collect data on whether students were native or transfer.

GEOLOGY 107: Total students assessed = 57

<table>
<thead>
<tr>
<th>Rubric Element</th>
<th>Pass</th>
<th>No Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Rate</td>
<td>21/37%</td>
<td>36/63%</td>
</tr>
<tr>
<td>Summary-Details</td>
<td>46/81%</td>
<td>11/19%</td>
</tr>
<tr>
<td>Summary-Discipline Specific Vocabulary</td>
<td>16/28%</td>
<td>41/72%</td>
</tr>
<tr>
<td>Summary- Author’s Intent</td>
<td>45/76%</td>
<td>12/21%</td>
</tr>
</tbody>
</table>
In the introductory class, a majority of the students did not have acceptable reading rates. However, the majority of the students succeeded in conveying the author’s intent in their summary and including some details. This result suggests that the students were successful at comprehending the section that they did manage to read in the allotted time. As might be expected for an introductory class, the students were not generally successful at using discipline-specific vocabulary in their summaries.

In the senior-level class, only 50% of the students had acceptable reading rates. Slightly more were successful at conveying the author’s intent in their summary and slightly less used appropriate discipline-specific vocabulary. A majority of the group was successful at including details in their summary.

The results for the Graduate Program assessment are provided in the following table:

<table>
<thead>
<tr>
<th>Assessment of Learning Outcome:</th>
<th>GEOL 502, Fall 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Critically synthesize and interpret published scientific literature; differentiate data from interpretation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student</th>
<th>Outline Geol, Synthesize Lit</th>
<th>Organization Format</th>
<th>Figures &amp; Tables</th>
<th>Spelling &amp; Grammar</th>
<th>Succinct &amp; Clear Writing</th>
<th>Integrates Obs &amp; Examples</th>
<th>Complete Refs</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Student 2</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Student 3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Student 4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Student 5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Student 6</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Student 7</td>
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<td>4</td>
<td>4</td>
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</tr>
<tr>
<td>Student 8</td>
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<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Student 9</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Student 10</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Average | 3.9 | 3.9 | 4.0 | 3.6 | 3.7 | 4.0 | 3.5 | 3.8 |

Overall, the graduate students did quite well on this assessment, with averages between 3.3 and 4.0. The areas of greatest weakness were spelling and grammar, succinct writing, and references.

4. What will the department or program do as a result of that information?

The department has not discussed these results in great detail. We intend to review all of our assessment data from the past three years at a department retreat in Fall 2013. In general, one major finding from the reading assessment is that students at all levels cannot read very fast. Prior to this assessment, we as faculty did not realize the extent of...
this problem. One possible course that we will consider will be ways to get students reading more, including quizzes on assigned readings and time spent in class analyzing reading assignments. In order to improve the reading of our Geology majors, we must do this throughout our core sequence.

For the graduate students, we feel that our current emphasis on writing literature reviews in GEOL 502, including the rubrics that we use for those assignments, are fairly successful. In two of our required graduate courses, we work with the students a great deal on writing. It does not appear that any action is needed as a result of this assessment other than continuing with what is working.

5. What did the department or program do in response to last year’s assessment information?

6.
--The 2010-2011 results indicated that the undergraduate majors in the Geological Sciences are weak in quantitative skills when they enter the major (GEOL 305, 380), but improve slightly by the end of their program (GEOL 487). Most performed better on a basic quantitative homework assignment than the standardized assessment test of quantitative skills, but did not perform as well on a complex problems (GEOL 484b). We offered a new course, GEOL 305 Quantitative Methods in Geology, for the first time in spring, 2011, and we are continuing to develop and assess the curriculum in this course to help our students hone their quantitative skills.

In other areas, students had mastered greater than 70% of the materials related to each learning objective. We will continue to develop our curriculum to raise this achievement level.

Variations in our assessment scores may have been partially due to different instructors conducting the assessment. Some of the assessments included only a few students, and we need to compile more data on greater numbers of students to recognize and address any trends.

6. Questions or suggestions concerning Assessment of Student Learning at Central Washington University:
Central Washington University  
College Reading Assessment  
Rationale, Preparation, Protocol and Scoring

**Purpose:** The CWU College Reading Assessment was created to help faculty quickly and simply determine:

- how effectively our students read course material,
- how clear the course material is in the minds of our students, and
- how well our students can summarize and demonstrate their understanding of what they read.

The goal is to use this data to adapt our teaching, support student processing of assigned readings, and/or direct students to available resources.

**Rationale:** Researchers have long demonstrated a strong relationship between a college student’s academic reading skills and his/her academic success. Consider:

- educators often assume that if our students have made it to our classroom, they know how to read
- students often use a surface approach to reading academic texts, and their comprehension suffers
- poor comprehension leads to poor class participation, dismal test scores, low-quality papers, and the inability to thoroughly understand course material.

**Process Overview:** Students will be asked to read a piece of text for one minute. After reading as much text as they can in one minute, students will mark the location of what they had read on the paper. Students will then be asked to spend three minutes writing a summary of what they have just read. The following guidelines and protocol for using the reading rubric are described below:

**Getting Started:**

1. Choose a piece of text*, of at least 500 words, that you expect your students to be able to read for your class. This can be a page from your course text, an article, etc.

2. On the master copy of your selected text piece count 500 words and mark that spot. Next mark the 500 word piece into 50 word increments. This step will make scoring students’ reading rate (words read in a minute) quick and easy.

* Rather than choosing a text, you may use one of the attached sample text pieces. These were taken from junior level course texts. They contain approximately 500 words and have been marked off in 50 word increments.

**Assessment Protocol:**

- Instructor Says to Students:
This CWU Reading Assessment will provide a snapshot of how quickly you read academic material, how well you comprehend the text as you read, and how well you can summarize, in writing, what you have read. You will be given 1 minute to read the text on the reverse side of the paper (or in your text book).

Do:

Distribute blank sheets of paper for student responses.
Distribute 500-word text or have students find the selected passage in textbook being used for the assessment. Instruct students to keep their papers face down or finger in the book until you say go.
Instructor Says:
Go.
Do:

At 1 minute tell students to STOP. Ask them to circle the last word read. If they are reading in an actual text, ask them to write on their response sheet which paragraph the word is in, which line, and which word they last read.
Instructor Says

Without looking back at the text piece, you will have three minutes to write a summary of what you just read on your response sheet.

Do

Provide students with 3 minutes to write a summary. Time them and call STOP at 3 minutes. When the entire CWU College Reading Assessment is finished, collect the response sheets.

Do

Score each students’ assessment using the CWU College Reading Rubric. By doing this you will be able to get a general snapshot of each student’s reading rate and ability to comprehend academic text.

Reading Rate Score:

•To determine a students’ reading rate, use your pre-counted text piece and locate the word your student indicated was the last word read. Using the beginning point of the selected text, count the number of words the student read. Mark this number on the College Reading Rubric. 190 wpm or higher is considered passing for this assessment.

While the following is a rule of thumb, following are some basic levels for words per minute read (wpm)

•wpm/301+ = good general reader
•wpm/190-300 = average general reader (often too slow for college)
•wpm/189-= insufficient, below average

Note that the material read is academic/technical material, not recreational reading material. When students read academic/technical material at a below average rate, often times they could be struggling with the actual reading of the words. This struggling in decoding/identifying the words, takes mental energy away from actually understanding the material.

Text Summary Score:
• Read the student’s short Text Summary. As you read you are looking for the amount and kind of details the student uses, whether or not the student uses the vocabulary of the discipline, and how well the student captures the author’s intent. On the College Reading Rubric mark the appropriate boxes for your student’s ability to summarize the text.

The ability to summarize is a comprehension skill, and can indicate how well the student understands the text. Many standardized reading assessments require summarization to gain an initial understanding of how well the student has comprehended the passage. Recalling the basic information is essential for higher levels of thinking to occur.

• Based on each student’s Reading Rate and Text Summary scores determine if he/she falls into the PASS or NO PASS range for each element.

COLLEGE READING RUBRIC

<table>
<thead>
<tr>
<th>ELEMENTS</th>
<th>PASS</th>
<th>NO PASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Rate</td>
<td>___Student’s reading rate is average or above average (190+wpm)</td>
<td>___Student’s reading rate is below average (189-wpm)</td>
</tr>
<tr>
<td>Summary-Details</td>
<td>___Student’s summary contains details.</td>
<td>___Student’s summary does NOT contain details.</td>
</tr>
<tr>
<td>Summary-Discipline Specific Vocabulary</td>
<td>___Student’s summary contains discipline specific vocabulary.</td>
<td>___Student’s summary does NOT contain discipline specific vocabulary.</td>
</tr>
<tr>
<td>Summary- Author’s Intent</td>
<td>___Student’s summary communicates clearly the author’s intent.</td>
<td>___Student’s summary does NOT communicate clearly the author’s intent.</td>
</tr>
</tbody>
</table>

Collecting & Reporting Results

Collect Data: Student reading should be evaluated with the attached rubric. Data should be reported in pass/no pass format for institutional purposes. Data should be collected from courses within General Education (those that have reading as an outcome) and reported in the departmental yearly assessment.
report. Discipline based courses within the major would also be collected and reported separately but in the same the yearly assessment report. Reporting for reading is due December, 2012.

**Report Format:** Results should be reported in terms of the number and percentage of students passing/not-passing each major element. See example below based on sample data from 30 students (15 native and 15 transfer).

**Course Example: UNIV 111**

<table>
<thead>
<tr>
<th>Rubric Element</th>
<th>Pass Native</th>
<th>Pass* Transfer</th>
<th>Non-Pass Native</th>
<th>Non-Pass* Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Rate</td>
<td>10/33%</td>
<td>5/17%</td>
<td>5/17%</td>
<td>10/33%</td>
</tr>
<tr>
<td>Summary-Details</td>
<td>15/50%</td>
<td>15/50%</td>
<td>0/0%</td>
<td>0/0%</td>
</tr>
<tr>
<td>Summary-Discipline Specific Vocabulary</td>
<td>10/33%</td>
<td>10/33%</td>
<td>5/17%</td>
<td>5/17%</td>
</tr>
<tr>
<td>Summary-Author’s Intent</td>
<td>15/50%</td>
<td>10/33%</td>
<td>0/0%</td>
<td>5/17%</td>
</tr>
</tbody>
</table>

*Only Discipline based major courses would identify number and percentage of native and transfer students passing/failing each element.

**Suggested Follow-up:**
Students should be directed to the CWU College Reading Across the Curriculum Website. There students will find:
- suggestions for improving weak areas of comprehension
- strategies to use when reading technical/academic material
- media clips explaining/demonstrating strategies
- strategy bookmarks that can be printed and used regularly

Faculty can use the CWU College Reading Across the Curriculum Website to find:
- strategies to teach your students
- media clips to show your students
- websites that provide teaching tools that will help students with technical/academic reading
- schedule of workshops to support reading across the curriculum

**Reading Across the Curriculum Website:**
http://www.cwu.edu/~gen_ed/readingcurriculum.html