

Assessment of Critical Thinking ILO

In 2013-2014, the institutional assessment efforts were devoted to investigating student learning in the area of critical thinking. At that time, the ILO read as follows:

Graduates of Westmont College will accurately evaluate the strength of evidence in support of a claim.

Methods and tools

The *Critical Thinking Assessment Test* (CAT), developed by the Center for Assessment & Improvement of Learning at Tennessee Tech University, was administered to students enrolled in senior seminar classes from natural science, social science and humanities departments. Average GPA, ACT and SAT scores were compared between the CAT sample and the entire senior class. It was determined that students in the sample were a good representation of the senior class. The CAT is a 15-question, short-answer test. Faculty and administrators spent a day in June 2014 scoring the responses of 72 seniors, which comprised 20% of the 2014 graduating class. The scoring done by Westmont was sent to Tennessee Technological University, where the results were checked, analyzed and compared to national norms.

Results

CAT results from Westmont sample:

	N	Min.	Max.	Mean	Std. Dev
CAT Total Score	71	8.00	36.00	21.00	5.33

Overall, Westmont students did as well as or better than all college students who have taken the CAT. Westmont students scored equal to or higher than the national average on 14 of the 15 CAT questions.

Since CAT scores are moderately correlated with entering ACT/SAT scores ($r=.5$), the Center for Assessment and Improvement of Learning provides information on the regression model's predictions of CAT scores for a range of ACT and SAT scores. The average SAT score for the Westmont sample was 1180. The Center for Assessment's regression model predicts a CAT score of 21.43 for students with that SAT. Westmont's mean CAT score of 21 is thus comparable to what the model predicts. While the Center for Assessment does not provide the standard error of the regression prediction, it seems that graduates of Westmont are performing at approximately the same level on the CAT as the national sample, when ACT/SAT scores are taken into account.

Recommendations for improvement

The critical thinking assessment team reported CAT results to the Academic Senate in October, 2014. The following was proposed and approved by the Senate:

1. Identify the specific critical thinking skills from the 2014 CAT administration on which Westmont students had the lowest scores, including the ability to:
 - identify additional information needed to evaluate hypothesis
 - separate relevant from irrelevant information when solving a real-world problem
 - use and apply relevant information to evaluate a problem
 - identify suitable solutions for a real-world problem situation using relevant information.

2. Identify lower-division courses in which focused instruction would be given for the improvement of these skills.
3. Provide the faculty who teach targeted classes with the resources needed to implement effective instruction designed to improve student critical thinking skills.
4. Within two to three years, administer the CAT in the targeted courses in order to assess instruction effectiveness.
5. Refine the language of the Critical Thinking ILO to make it more inclusive of a broader range of critical thinking skills.
6. Establish a critical thinking performance standard for the next round of institutional assessment (2019-20).

Closing-the-loop activities

1. In February 2015, the first in-house workshop for faculty on critical thinking pedagogy was conducted. Presenters included Westmont faculty trained at the Performance Task Academy Workshop: CLA in the Classroom in 2012-2013. Nine faculty members attended the workshop.
2. In March 2015, the Academic Senate approved the performance standard for the Critical Thinking outcome, which reads as follows:

Westmont seniors will receive an average score on a nationally-normed critical thinking test, such as the Critical Thinking Assessment Test (CAT), at least as high as the average score received on that test by comparable students (normalized for college entrance scores) at other institutions.

3. The courses for focused critical thinking instruction were identified. Small stipends were allocated for faculty to develop course assignments pertinent to improving student critical thinking skills.
4. The language of the Critical Thinking ILO was refined. The modified Critical Thinking ILO reads:

Graduates of Westmont College will be able to accurately evaluate the strength of evidence in support of a claim and apply critical thinking creatively to problem solving.