Is student writing improving as a result of WEC?:

Assessing discipline-specific student writing at the University of Minnesota

WEC Assessment Update, August 2010

WEC
WRITING-ENRICHED CURRICULUM

Teaching undergraduate students to write well has been a recognized priority of the University of Minnesota since 1991. With modest beginnings in 2007, the Writing-Enriched Curriculum (WEC)[1] project began to pilot a discipline-specific writing program that invited participating units to define disciplinary characteristics of writing and writing abilities that graduating seniors should demonstrate, and to develop Writing Plans.[2] Today, 18 units[3] participate in the WEC program. Preliminary assessments indicate that significant curricular and instructional change have already occurred in WEC's pilot units. But is student writing improving as a result of WEC?

We are happy to report that, when we have comparative data—as we do for Political Science, profiled below—the answer is yes. Although measuring writing improvement is made complicated by the multiple variables at play, the WEC team has developed a method for rating student writing that evaluates samples' sufficiency against faculty-generated criteria. We now have the beginnings of empirical evidence that suggests reason to be optimistic: as the WEC project moves from a limited pilot to an institution-wide program, we will find improvement in undergraduate student writing in all WEC units.

Methods

The WEC team has developed a comprehensive strategy for measuring programmatic effectiveness and impact on writing instruction and student writing. Using a mixed method design that tracks curricular, attitudinal, and outcome-based changes in writing instruction and student writing, we draw data from participant surveys, interviews, and writing samples. In Spring 2010, WEC initiated discipline-specific rating sessions with nine of the project's units (See Table 1). Teams rated student writing on a two-point scale; the method demonstrated reliability and utility within each unit. Perhaps most key to its success, however, was the method's adaptability. Criteria used by each team differed because they were drawn from units' Writing Plans. These departmental criteria will again be applied in the assessment of writing as we establish a longitudinal data set. In this way, faculty will be able to track the quality of student writing over time.

Results

Table 1 provides a snapshot of the strengths and weaknesses raters identified in student texts for each of the nine participating units. In the Geography samples, for example, raters recorded students' success at making and recording observations, a key ability Geography faculty identified for their students. Less successful, however, was those students' ability to assess the relevance of arguments in secondary sources. In Mechanical Engineering, students collaboratively authored design reports, and raters recorded students' success at applying knowledge of physics, mathematics, and engineering to their designs. Raters found that these students were less successful at summarizing key points, a critical component of writing clear, concise texts.

Table 1: Unit writing strengths and weaknesses

Unit	College	Sample genres of writing	What are students in these units doing most successfully?*	What are student weaknesses?**
Ecology, Evolution & Behavior	CBS	Research paper	Using information to support arguments.	Evaluating and interrogating sources.
Geography	CLA	Senior capstone	Making and recording observations.	Assessing relevance of arguments in secondary sources.
History	CLA	Thesis-driven research paper	Formulating and expressing viable historical research questions and hypotheses.	Engaging in critical analysis of interpretive problems.
Horticulture Science	CFANS	Hypothesis-driven research paper	Integrating relevant research-based sources.	Using data as evidence to argue conclusions.
Housing Studies	CoD	Research paper	Considering future implications for policy and trends.	Demonstrating personal voice.
Mechanical Engineering	IT	Senior collaboratively written design reports	Applying knowledge of physics, mathematics, and engineering.	Summarizing key points.
Nursing	AHC	Research paper	Drawing appropriate conclusions related to clinical situations.	Interpreting data through critical lenses.
Political Science	CLA	Thesis-driven research paper	Identifying questions central to the field.	Relating various perspectives to one another analytically.
Spanish and Portuguese Studies	CLA	Literary, linguistic, or cultural research	Using appropriate vocabulary.	Citing sources appropriately and consistently.

*"Most successfully" used here refers to a specific criterion that was rated "sufficient" in more than 80% of the student writing samples for that particular unit. Each unit has distinct, discipline-specific criteria. Units had several criteria rated as 70% or greater for student writing samples but space precludes listing them all.

**"Weaknesses" used here refers to a specific criterion that was rated "sufficient" in less that 40% of the student writing samples for that particular unit (except in the cases of Spanish and Portuguese Studies, Nursing, and Housing Studies, where the lowest rated criteria averaged above 40%.)

[1] In 2007, the WEC pilot was funded by a 1M grant from the Bush Foundation.

[2] All Writing Plans are available online at http://www.wec.umn.edu

[3] "Units" refers to departments or colleges: African American & African Studies ; Architecture; College of Biological Sciences; Construction Management; Design, Housing, & Apparel; Ecology, Evolution, and Behavior; Family Social Science; Geography; History; Horticulture Science; Kinesiology; Mechanical Engineering; Nursing; Philosophy; Physics; Political Science; Spanish and Portuguese Studies; Theatre Arts & Dance.

Discussion

While we are still in the early stages of measuring the WEC model's impact on student writing, the method we've developed for rating student writing against faculty-generated criteria has proven successful. All nine rating sessions conducted to date yielded quantitative and qualitative data about senior-level student writing in relation to the criteria established by each unit. The WEC team will disseminate the results to each participating unit in Fall 2010, and we anticipate that unit faculty will be interested in summative findings related to their students' writing performance. Further, we anticipate that the data will provide incentives for continued faculty-driven curricular decision-making. Unit faculty will want to consider what they have already achieved and what new strategies might address identified weaknesses in student writing. In this way, rating data provide a unique and important body of assessment information for faculty engaged in the WEC project. Early indications suggest that repeating ratings every two to three years will further demonstrate the WEC model's efficacy.

Case in Point: Political Science

Since 2007, the Department of Political Science has worked with the WEC project on curricular changes in writing instruction. As the first unit to pilot the WEC model, Political Science is the first to have accrued a comparable set of student writing samples. This past summer, those student texts were rated against faculty-generated criteria. What we found was impressive—student texts posted significant gains between 2007 and 2009.

Table 2 shows all of the results of the ratings. For example, in 2007 only 7% of student texts sufficiently *explicated a relevant and compelling thesis or hypothesis* compared to 53% in 2009. In addition, students were better able to *analyze evidence*, *identify and summarize arguments*, and *relate various perspectives to one another analytically* in 2009 than in 2007. Analysis of faculty interviews and instructional materials confirms that instructional changes in Political Science, as a result of the WEC project, have had a positive impact on student writing.

Table 2: Political Science results

Writing Criteria: Political Science	2007	2009
Identifies questions central to the field.	80%*	93%
Contributes to discussions of questions central to the field.	60%	60%
Explicates a relevant and compelling thesis or hypothesis.	7%	53%
Analyzes evidence.	33%	40%
Distinguishes among different kinds of sources.	40%	53%
Identifies argument.	73%	80%
Summarizes arguments.	60%	67%
Relates various perspectives to one another analytically.	20%	33%
Displays research for germane evidence.	80%	67%
Draws conclusions about the question from evidence.	13%	53%
Uses mechanically correct English.	80%	87%
Uses clear English.	100%	80%

*The percentages listed on this table are averages of the three raters' scores for all of the student texts for each of the criteria.

Political Science faculty will have the opportunity to examine the results listed above this coming fall. Post-ratings discussions will allow faculty members to celebrate students' strengths and to consider ways of addressing weaknesses. As "inside rater" and Assistant Professor of Political Science Nancy Luxon stated in response to the aforementioned results, "It was heartening to see our students make such progress in articulating a central thesis and then in defending their subsequent conclusions. But we need to work further with our students on developing their capacity to analyze and assess the evidence that might support their arguments [thus allowing them to] make more nuanced and sophisticated claims. In a time when news reporting favors ideological bumper-stickers and soundbites, the importance of cultivating a critical skepticism cannot be overstated."

Future plans related to WEC assessment of student writing

- **Fall 2010**: Results of rating sessions are distributed to and discussed with faculty members in participating units.
- **Summer 2011:** Rating sessions are held in next cohorts of WEC units (Theatre Arts and Dance; College of Biological Sciences; Kinesiology; African and African-American Studies).
- **Ongoing:** Iterative rating sessions are held; session results are analyzed for patterns of strengths and weaknesses of all undergraduate students.

For more information on the WEC project or to request a brochure, visit

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