Writing-Enriched Curriculum:
Developing student writers in all disciplines

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Writing Across the Curriculum,
University of MN, Twin Cities
2006 Question: How can we ensure an intentional and sustainable infusion of relevant writing instruction into diverse undergraduate curricula?

Proposed Answer:
• Put change in the hands of unit faculty
• Engage faculty in an ongoing process of unearthing, interrogating, implementing, and assessing discipline-specific writing values, practices and expectations
• Offer long-term customized partnership and support
UNDERGRADUATE WRITING PLANS

SECTION I: CHARACTERISTICS OF WRITING?

SECTION II: WRITING ABILITIES?

SECTION III: CURRICULAR SEQUENCING?

SECTION IV: ASSESSMENT?

SECTION V: SUPPORT?

SECTION VI: PROCESS?

Meeting #1

Meeting #2

Meeting #3

Meeting #4
Numbers as of May 2016
Departments & Programs: 60
Majors: 104
Students enrolled in WEC units: 16,829

WEC majors by college:
- CLA 29
- CBS 10
- CSOM 17
- CSE 12
- CEHD 10
- CFANS 11
- CDES 6
- AHC/MED/SON 5
- CCE 2
What effect is creating, implementing, and assessing a Writing Plan having on writing instruction in WEC units?

- WEC surveys
- Meeting transcriptions
- Curricular maps and matrices
- Annual U-Wide surveys (SRT, SERU)
- Post-workshop/consultation surveys
- Triennial rating of student writing

What impact is WEC having on student writing?

- Triennial rating of student writing
- Annual U-Wide surveys (SRT and SERU)
WEC overview

Student perceptions of writing

Impact on engagement

Impact on instruction and writing
WEC Units, 2013-2016

- Agronomy
- Art History
- Industrial and Systems Engineering
- Sociology
- Applied Economics
- Civil and Geo-Engineering
- Food Science and Nutrition
- Psychology
- Youth Studies
- Communication Studies
- Environmental Sciences, Policy and Management
- Mortuary Science
- Organizational Leadership, Policy, and Development
- Chemistry
- Anthropology
- Dental Hygiene
- Economics
- Electrical and Computer Engineering
How important is writing to the scholarly and professional work done in your field?

- Extremely Important: 28%
- Very Important: 48%
- Somewhat Important: 24%
- Not Important: 0%

2454 STUDENTS IN 18 UNITS
How important is writing to the scholarly and professional work done in your field?

- ECE
- Economics
- Dental Hygiene
- Anthropology
- Chemistry
- OLPD
- Mortuary Science
- ESPM
- Communication Studies
- Youth Studies
- Psychology
- FSc&N
- CEGE
- Applied Economics
- Sociology
- IySE
- Art History
- Agronomy

Somewhat  Very  Extremely
Finding: Across colleges and disciplines, students recognize the importance of writing to success in their major and future professional work. They see writing as a primary tool for developing and demonstrating thinking.
First Year Writing: 93% of respondents took a first-year writing class or its equivalent at another institution (42% took FYW at the U) Student Responses = 1946 students

Which of the following abilities were addressed in the first-year writing course or its equivalent?

Which of the following abilities were addressed in the first-year writing course or its equivalent?

- Audience address
- Purpose
- Thesis
- Organization
- Evidence
- Counterarguments
- Paragraphing
- Drafting
- Peer Response
- Research
- Citation
- Grammar
- Other

0% 20% 40% 60% 80% 100%
Relevancy of FYW course writing and instruction to writing done in the major? (1946 student responses)
**Finding:** Students recognize the relevance of writing assigned in first-year writing courses to writing assigned in their majors.
<table>
<thead>
<tr>
<th>Skill</th>
<th>Strong</th>
<th>Satisfactory</th>
<th>Weak</th>
<th>Unable to generalize</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use field specific terminology, formats, and conventions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Argue a position using a thesis or hypothesis and evidence</td>
<td></td>
<td></td>
<td>Student</td>
<td>Faculty</td>
<td>TA</td>
</tr>
<tr>
<td>Create precise descriptions, processes, objects, findings, etc</td>
<td>Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create concise summaries of ideas, texts, or events</td>
<td>Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze, interrogate, and/or evaluate ideas, texts, or events</td>
<td></td>
<td></td>
<td>Student</td>
<td>TA</td>
<td></td>
</tr>
<tr>
<td>Co-author texts with one or more writer(s)</td>
<td></td>
<td></td>
<td>Student</td>
<td>TA</td>
<td></td>
</tr>
<tr>
<td>Report complex data or findings</td>
<td>Student</td>
<td>Faculty</td>
<td>TA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use writing to develop and deepen thinking</td>
<td>Student</td>
<td>Faculty</td>
<td>TA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explain processes or data to target audiences</td>
<td>Student</td>
<td>Faculty</td>
<td>TA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synthesize disparate ideas, and/or perspectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Express feelings or impressions</td>
<td>Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrate and correctly cite information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TA</td>
</tr>
<tr>
<td>Use correct grammar, spelling, and mechanics</td>
<td>Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create and incorporate visuals or presentation formats</td>
<td>Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflect upon experience and/or assumptions</td>
<td>Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propose critical and/or creative solutions to problems</td>
<td></td>
<td></td>
<td>Faculty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skill Description</td>
<td>Strong</td>
<td>Satisfactory</td>
<td>Weak</td>
<td>Unable to generalize</td>
<td>NA</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
<td>--------</td>
<td>--------------</td>
<td>------</td>
<td>-----------------------</td>
<td>----</td>
</tr>
<tr>
<td>Use field specific terminology, formats, and conventions</td>
<td>28%</td>
<td>57%</td>
<td>10%</td>
<td>4%</td>
<td>1%</td>
</tr>
<tr>
<td>Argue a position using a thesis or hypothesis and evidence</td>
<td>35%</td>
<td>51%</td>
<td>9%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Create precise descriptions, processes, objects, findings, etc</td>
<td>35%</td>
<td>54%</td>
<td>7%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Create concise summaries of ideas, texts, or events</td>
<td>41%</td>
<td>50%</td>
<td>7%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Analyze, interrogate, and/or evaluate ideas, texts, or events</td>
<td>36%</td>
<td>53%</td>
<td>8%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Co-author texts with one or more writer(s)</td>
<td>15%</td>
<td>39%</td>
<td>25%</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td>Report complex data or findings</td>
<td>29%</td>
<td>52%</td>
<td>13%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Use writing to develop and deepen thinking</td>
<td>33%</td>
<td>48%</td>
<td>13%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Synthesize disparate ideas, and/or perspectives</td>
<td>24%</td>
<td>54%</td>
<td>13%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Express feelings or impressions</td>
<td>33%</td>
<td>40%</td>
<td>17%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Integrate and correctly cite information</td>
<td>40%</td>
<td>48%</td>
<td>10%</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Use correct grammar, spelling, and mechanics</td>
<td>55%</td>
<td>33%</td>
<td>11%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Reflect upon experience and/or assumptions</td>
<td>38%</td>
<td>46%</td>
<td>15%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Propose critical and/or creative solutions to problems</td>
<td>30%</td>
<td>51%</td>
<td>14%</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>
**Finding:** In every WEC unit, students’ self-assessment of proficiency with specific writing abilities is more positive than faculty/instructor assessment of those specific writing abilities.
WEC overview

Student perceptions of writing

Impact on engagement

Impact on instruction and writing
1. Expected Writing Abilities are translated into ratable criteria.

2. Iterative rating sessions are held in which 3 raters (2 from outside the target unit) rate capstone-level papers/projects against faculty-generated criteria.

3. Rating results (and debrief comments) are presented to faculty, who are asked for their reactions/observations/next moves.
<table>
<thead>
<tr>
<th>#</th>
<th>Criteria: The text...</th>
<th>2013</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Includes an introduction that effectively summarizes or focuses later points or defends a central argument.</td>
<td>1.21</td>
<td>1.84</td>
</tr>
<tr>
<td>2</td>
<td>Articulates valid arguments that are based in evidence.</td>
<td>1.02</td>
<td>1.89</td>
</tr>
<tr>
<td>3</td>
<td>Demonstrates analysis of source information in a way that substantiates or contributes to central point.</td>
<td>.95</td>
<td>1.98</td>
</tr>
<tr>
<td>4</td>
<td>Synthesizes information from a variety of sources in the writer’s own language.</td>
<td>1.12</td>
<td>2.04</td>
</tr>
<tr>
<td>5</td>
<td>Concludes by summarizing or bringing added meaning to main points.</td>
<td>1.0</td>
<td>1.98</td>
</tr>
<tr>
<td>6</td>
<td>Consistently uses language and tone that are appropriate for the genre/audience.</td>
<td>1.24</td>
<td>2.00</td>
</tr>
<tr>
<td>7</td>
<td>Uses information from credible sources.</td>
<td>1.55</td>
<td>2.11</td>
</tr>
</tbody>
</table>

2013 N = 288 pages  
2016 N = 297 pages
<table>
<thead>
<tr>
<th>#</th>
<th>Criteria: The text...</th>
<th>2013</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Synthesizes information and ideas from multiple or disparate sources.</td>
<td>.59</td>
<td>.81</td>
</tr>
<tr>
<td>2</td>
<td>Consistently uses language appropriate for scientific audiences.</td>
<td>.53</td>
<td>.73</td>
</tr>
<tr>
<td>3</td>
<td>Describes what is seen (in the field and/or lab), read (in an article, book, and/or website), or heard (in class, lab, and/or the field) so that the observations and information is understandable to someone who was not present.</td>
<td>.58</td>
<td>.57</td>
</tr>
<tr>
<td>4</td>
<td>Explains the meaning of data and figures so that they are understandable to someone who does not have the data or figures.</td>
<td>.32</td>
<td>.54</td>
</tr>
<tr>
<td>5</td>
<td>Answers a question or makes a point using logically sequenced sentences.</td>
<td>.71</td>
<td>.77</td>
</tr>
</tbody>
</table>

WEC Ratings for sample department in CSE

2013 N = 287 pages
2016 N = 275 pages
Finding: Implementing faculty-generated Writing Plans can correlate with an increased frequency of students demonstrating expected writing abilities.
From WEC surveys of students, faculty members/instructors and external affiliates,

“Different teachers expect different things. Some value content and creativity, while others grammar and whether or not it is the right length, font size, etc.”

Student

“Writing seems to be thrown upon us in our upper level years of college. I feel that most of the upper level students feel inexperienced and unprepared for our upper level writing intensive courses within the XXX major.”

Student

“There is enormous variation across the discipline of XXX about the importance of writing and the willingness of faculty to incorporate meaningful writing exercises into their classrooms.”

TA

“This is a content course and I shouldn't be teaching basic skills. Students should have these skills to be accepted in the major or course.”

Faculty/Instructor
### Writing assignments by course level

<table>
<thead>
<tr>
<th>Assignment Genres</th>
<th>3000 LEVEL</th>
<th>4000 LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>Worksheet/Problem Set</td>
<td>x x x x</td>
<td>x x x x x x</td>
</tr>
<tr>
<td>Informal Paper, 1-3 pg</td>
<td>x x x x x</td>
<td>x x x x x x</td>
</tr>
<tr>
<td>Formal Paper, 1-3 pg</td>
<td>x x x x x</td>
<td>x x x x x</td>
</tr>
<tr>
<td>Formal Paper 4-10 pg</td>
<td>x x x x x</td>
<td>x x x x x</td>
</tr>
<tr>
<td>Individual Presentation</td>
<td>x x x x</td>
<td>x x x x</td>
</tr>
<tr>
<td>Group Presentation</td>
<td>x x x x</td>
<td>x x x x</td>
</tr>
<tr>
<td>Peer Review</td>
<td>x x x x</td>
<td>x x x x</td>
</tr>
<tr>
<td>Critical Reading ?s</td>
<td>x x x x</td>
<td>x x x x x x</td>
</tr>
</tbody>
</table>

From a biological science department…
Abilities communicated implicitly vs. explicitly

SDS = synthesizing disparate sources
IS = interrogating sources
RCW = results centered writing
GRM = grammatically accurate writing
ACE = analyze for cause and effect
RIV = recognize the importance of variability

higher order abilities?
Students in 1003, create mesa redondas which means “round-table discussions.” These are small compositions, one page or 23 to 26 lines. Papers have an introduction, a theme and 4-5 paragraphs. By the time they emerge from intermediate courses, students are able to:

- Create initial handwritten drafts without utilizing dictionaries,
- Respond to peer drafts,
- Revise drafts utilizing comments, and
- Compile phases of writing into a portfolio.

Students in 1004 write fewer mesa redondas, they revise their drafts twice and are graded on content, vocabulary, language, grammar, and syntax. Past, present, and future at this level because in 1004, students take the Learning Proficiency Exam (LPE).

3015
All writing assignments are tied closely to the readings in the textbook.
- Students start by writing descriptions, both concrete and abstract.
- Students move from descriptive writing to simple narratives in subsequent assignments.
- Later in the semester, students move into “academic writing” by responding to textbook readings and class discussions. This writing is thesis-fronted, argumentative, and incorporates analytic functions such as compare/contrast, cause/effect, and so forth.
- Students learn to interrogate sources by interviewing each other, summarizing and synthesizing.
<table>
<thead>
<tr>
<th>Number</th>
<th>Ability</th>
<th>1901</th>
<th>1902</th>
<th>2011</th>
<th>2013</th>
<th>3003</th>
<th>3081W</th>
<th>3081</th>
<th>4061</th>
<th>4061i</th>
<th>4061i</th>
<th>4061i</th>
<th>4211</th>
<th>4211i</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Describe software or system processes accurately, clearly and illustratively, using appropriate structures.</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>a</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>2</td>
<td>Provide low-level code explanations such as comments accurately, concisely, and informatively.</td>
<td>n</td>
<td>i</td>
<td>n</td>
<td>a</td>
<td>a</td>
<td>a</td>
<td>n</td>
<td>i</td>
<td>a</td>
<td>a</td>
<td>i</td>
<td>n</td>
<td>i</td>
</tr>
<tr>
<td>3</td>
<td>Describe algorithms accurately and concisely, with appropriate structure, and appropriate balance between high-level characteristics and low-level details.</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>a</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>i,a</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>4</td>
<td>Write for specific audiences with appropriate tone, level of explanation, and accessibility.</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>n</td>
<td>i</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>5</td>
<td>Use appropriate structures (e.g., lists, visuals) cite appropriately, and integrate into the text.</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>i</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>n</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>6</td>
<td>Justify choices of design, algorithms, etc. persuasively, clearly explaining the reasons for the choice, any important alternatives, tradeoffs, etc.</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
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<td>i</td>
</tr>
<tr>
<td>7</td>
<td>Compare and contrast alternative solutions clearly, accurately, and insightfully, with appropriate level of detail and appropriate structure, diagrams, etc.</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
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<td>i</td>
</tr>
<tr>
<td>8</td>
<td>Present high-level (theoretical or technical) analysis clearly, accurately, insightfully, providing a high-level summary that focuses on the most important aspects of the problem or system.</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i,a</td>
<td>i</td>
</tr>
<tr>
<td>9</td>
<td>Present low-level analysis or proofs rigorously, precisely, and accurate, with appropriate structure, flow of ideas, and careful attention to details.</td>
<td>i</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>a</td>
<td>i</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>10</td>
<td>Document/clearly articulate content accurately and concisely with an appropriate balance between high-level and low-level ideas, and appropriate structures.</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>11</td>
<td>Authentically reflect individuality through writing that shows the writer's unique background, perspective, etc.</td>
<td>i</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>i</td>
<td>n</td>
<td>i</td>
<td>a</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
</tbody>
</table>
Finding: Faculty members/instructors’ scant awareness of the writing assignments and instruction occurring outside their own courses can waylay students’ development as writers
Student perceptions of writing

WEC overview

Impact on engagement

Impact on instruction and writing
How can we understand the relationship between Writing Enriched Curriculum and student success?

Direct measures: Rating student writing

Indirect measures: Student self report data (interviews, surveys)

Indirect measures 2: An examination of student self report data across disciplines
Propensity score matching: Using aggregate student data to produce a quasi-experimental effect

The principle behind this methodology assumes that students enrolling in WEC academic programs are more likely than their peers to have taken courses or engaged assignments guided by faculty driven writing criteria and the WEC process.
Results One: Increased consistency and transparency in writing instruction.

More likely to have understood the criteria instructors used to grade their writing

Encounter consistent approaches to writing and writing instruction across courses taken in their major
Results Two: Improved perception of academic skills

Critical thinking
Analytical skills
Written communication skills
Reading comprehension skills
Library research skills and other research skills.

The results suggest that students who were enrolled in WEC academic majors had significantly higher development in all five areas compared to their peers.
Results Three: Perceived improvements in learning outcomes

Students’ engagement in creatively identifying and solving a problem related to academic work

Critically evaluating an information source

Mastering major concepts related to their academic major,

Communicating an idea/project/research to a broader audience in an effective way

Understanding the viewpoints of others from different societies

Believing that they were prepared to engage effectively as a citizen

Gaining skills to ensure their learning and development
WEC assessment data indicate shifts in...

- Perceptions about writing’s relevance to content instruction (transcripts, surveys, interviews, assignment analysis)

- Explicit instruction and authentic assessment (Writing Plans, annual Liaison survey)

- Course-based vs. curriculum-based integration of writing/writing instruction (Writing Plans)

- Rate at which student writing is meeting faculty expectations (Triennial rating)

- Rate at which student writers report engagement with productive writing practices (SERU)

- Fiscal support for writing instruction (Writing Plans)

- Compliance with WI requirements (Campus Writing Board)
So, what does this mean to you, audience?