Evaluating the Impact of Course-Embedded Information Literacy in Writing 10
Assessment in Action (AiA) Results
Local Team: Sara Davidson Squibb, Laura Martin, Susan Mikkelsen, Matt Moberly, Anne Zanzucchi

BACKGROUND
• Assessed a collaboration between MWP lecturers and the library to embed information literacy into Writing 10 sections – known as TRAIL (Teaching Research & Information Literacy)
• Supports a WRI 10 course learning outcome – Students will demonstrate information literacy and be able to work with evidence
• Included information literacy related readings, reflections, lessons, tutorials such as formulating a research question, understanding the knowledge cycle, how to read a scholarly article
• Key assignments: research proposal, rhetorical analysis, annotated bibliography, problem/solution (argument) paper

QUESTIONS
Will TRAIL students …
1. demonstrate more developed information literacy skills in research writing than their non-TRAIL Writing 10 peers? (Student Papers)
2. express the knowledge, skills and attitudes representative of developing student researchers? (Student Reflections / Student Papers / Writing Faculty Observations)

EVIDENCE
A. Research Writing (TRAIL and non-TRAIL)
• Assessed 120 papers total from first-time freshman
• 40 each from three groups: TRAIL, non TRAIL with library instruction, non TRAIL with no library instruction
• Writing faculty scored papers via a rubric with dimensions of source suitability, arguments & counter-arguments supported with evidence, source integration, and citation style
• See Appendix A for rubric.

Findings:
• All three cohorts were most successful in the area of Source Suitability.
• The TRAIL group scored at 3 (Developing) or 4 (Advanced) ahead of their peers in all areas except the area of Integration.
• Students found it more challenging to 1) integrate sources than to apply a citation style appropriately and found it more challenging to 2) use evidence than to select sources.
• Overall, TRAIL students did not perform as highly as anticipated; yet, our targets may have been unrealistic for this group of freshman in their first year of college. This suggests that students need for more opportunities, beyond an introductory writing course, to write and receive feedback.
• TRAIL and non-TRAIL students with library instruction were more successful than those without embedded or traditional library instruction. This may suggest that Writing faculty who partner with librarians give greater emphasis to the research/evidence aspect of Writing 10 than do their teaching peers.
Rubric Scores on Papers
Rubric Scale: 0, 1 – Marginal, 2 – Emerging, 3 – Developing, 4 – Advanced

**SOURCE SUITABILITY**

<table>
<thead>
<tr>
<th>Source Type</th>
<th>0%</th>
<th>1%</th>
<th>2%</th>
<th>3%</th>
<th>4%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trail</td>
<td>12.5%</td>
<td>15%</td>
<td>10%</td>
<td>27.5%</td>
<td>72.5%</td>
<td>45%</td>
</tr>
<tr>
<td>Non-Trail One Shot</td>
<td>0%</td>
<td>2.5%</td>
<td>20%</td>
<td>20%</td>
<td>65.0%</td>
<td>32.5%</td>
</tr>
<tr>
<td>Non-Trail No Library</td>
<td>2.5%</td>
<td>7.5%</td>
<td>15%</td>
<td>27.5%</td>
<td>72.5%</td>
<td>45%</td>
</tr>
</tbody>
</table>

**ARGUMENT AND EVIDENCE**

<table>
<thead>
<tr>
<th>Source Type</th>
<th>0%</th>
<th>1%</th>
<th>2%</th>
<th>3%</th>
<th>4%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trail</td>
<td>30%</td>
<td>35%</td>
<td>27.5%</td>
<td>7.5%</td>
<td>7%</td>
<td>75%</td>
</tr>
<tr>
<td>Non-Trail One Shot</td>
<td>0%</td>
<td>2.5%</td>
<td>17.5%</td>
<td>37.5%</td>
<td>42.5%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Trail No Library</td>
<td>0%</td>
<td>2.5%</td>
<td>17.5%</td>
<td>37.5%</td>
<td>52.5%</td>
<td>100%</td>
</tr>
</tbody>
</table>
B. Student Reflections (TRAIL only)

- At the end of the semester, TRAIL students responded to six prompts. See Appendix B.
- Librarians applied a rubric to student reflections (n=157) but found student statements and coding information to be more revealing than rubric scores.
- See Appendix C for rubric.

Findings via Coding

Students in TRAIL

- made source changes, adding or excluding, between the annotated bibliography and final paper (72.0%).
- indicated being more confident researchers (88.5%).
- used their research knowledge and skills in other classes (45.2%) that semester; Biology and CORE were mentioned most often.
- anticipated using what they learned about the research process in future classes especially Writing and CORE (79.6%). For subjects outside of writing and CORE, students referred to Science courses 18 times and Social Sciences/Humanities courses 14 times.

Sample Student Statements

- “…the research process was more than just searching for sources. The most vital part of the process is actually the critical reading and analyzing which is something that can be used in any class.”
- “Not only do I feel more confident now but also I believe I will enjoy writing another research paper.”
- “I did change some of the articles because after I was done with the annotated bibliography I had noticed that I had left other perspectives out.”
- “Before this class, when I would research I would research articles that fit to support my thesis, but after taking this class I now look for many conclusions whether that [sic] assist my argument or not.”

C. Writing Faculty Observations (TRAIL only)

The Writing faculty participants (n=5) completed a debrief survey after teaching TRAIL Writing 10 sections.

Findings

Four of the five Writing lecturers observed that students in their TRAIL section(s) were thinking and writing more like emerging researchers than students that had taught previously in non-TRAIL classes. One participant was unsure.

These were some of their observations. Students ...

- were demonstrating researcher processes e.g. examining assumptions, reviewing, analyzing and finding gaps in literature, conducting primary research.
- were more engaged in working on the research paper, section by section.
- paid more attention to their research questions.
- were more serious about research.
• were more critical in source selection; were more aware of source evaluation standards.
• continued to research even after they had complete the annotated bibliography.
• were more aware of research strategies.
• had elevated / interesting conversations about research with their peers.
• made good suggestions about research during peer review sessions.

All Writing lecturers found that students did engage with research as an ongoing process; yet, a couple found that students were not able to incorporate evidence from multiple viewpoints to a greater extent than students they taught in the past. This final observation aligns with paper findings.

<table>
<thead>
<tr>
<th>Based on your observations, did your students ...</th>
<th>Yes, more so than previous students</th>
<th>No discernable differences</th>
<th>No, less so than previous students</th>
</tr>
</thead>
<tbody>
<tr>
<td>engage with research as an ongoing process.</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>demonstrate persistence in information-finding.</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>write strong research questions.</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>select suitable resources for their assignments.</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>incorporate evidence from multiple viewpoints.</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

**CURRENT COLLABORATION**

• Continuing with a train-the-trainer model
• The MWP is offering stipends for WRI 10 faculty to be involved in a learning community around TRAIL materials.
• Participants attend a 2-day workshop where TRAIL materials are shared by librarians and previous MWP participant; participants meet periodically during the semester
• Workshop was offered in August 2015 for the fall and January 2016 for the spring semester
• Nine participants to date
• Current TRAIL group plans to create a template syllabus with TRAIL material incorporated
## Appendix A

### Rubric – Evaluating Final WRI 10 Student Papers

<table>
<thead>
<tr>
<th>Concept</th>
<th>Guiding Question(s)</th>
<th>4 Advanced</th>
<th>3 Developing</th>
<th>2 Emerging</th>
<th>1 Marginal</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>To what extent have students use suitable sources (credible, relevant) in their</td>
<td>All sources are suitable.</td>
<td>Most sources are suitable.</td>
<td>Some sources are suitable.</td>
<td>Few sources are suitable.</td>
<td>All sources are suitable.</td>
</tr>
<tr>
<td>Suitability</td>
<td>papers for evidence?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>All sources are suitable.</td>
</tr>
<tr>
<td>Argument</td>
<td>Are students presenting multiple viewpoints? Do they support their arguments and</td>
<td>Multiple viewpoints are presented.</td>
<td>Multiple viewpoints are presented.</td>
<td>Multiple viewpoints are presented.</td>
<td>A single viewpoint is presented and/or arguments generally lack evidence.</td>
<td>A single viewpoint is presented and/or arguments generally lack evidence.</td>
</tr>
<tr>
<td>Evidence</td>
<td>counter-arguments with evidence?</td>
<td>Arguments and counter-arguments are strongly supported with evidence.</td>
<td>Arguments and counter-arguments are adequately supported with evidence.</td>
<td>Arguments and counter-arguments are minimally supported with evidence.</td>
<td></td>
<td>A single viewpoint is presented and/or arguments generally lack evidence.</td>
</tr>
<tr>
<td>Style</td>
<td>Do students cite sources accurately? Do they successfully produce proper in-text</td>
<td>All in-text citations and bibliography references are consistently formatted</td>
<td>In-text citations and bibliography references are consistently formatted</td>
<td>In-text citations and bibliography references are formatted in a standard</td>
<td>In-text citations and bibliography references are often inconsistently</td>
<td>In-text citations and bibliography references are often inconsistently</td>
</tr>
<tr>
<td></td>
<td>citations and bibliographies?</td>
<td>in a standard citation style with minor or no errors. Citations include</td>
<td>in a standard citation style with few errors. Citations include most, if</td>
<td>citation style with some errors.</td>
<td>formatted, incomplete, and/or missing. Citations are missing some</td>
<td>formatted, incomplete, and/or missing. Citations are missing some</td>
</tr>
<tr>
<td></td>
<td></td>
<td>information needed for readers to locate the resource.</td>
<td>not all, information needed for readers to locate the resources.</td>
<td></td>
<td>information needed for readers to locate the resources.</td>
<td>information needed for readers to locate the resources.</td>
</tr>
<tr>
<td>Integration</td>
<td>Do students successfully incorporate sources in their papers? As needed, do they</td>
<td>Sources receive attribution. Content is expertly incorporated into the text.</td>
<td>Sources receive attribution. Content is satisfactorily incorporated into</td>
<td>Sources receive attribution. Some content is satisfactorily incorporated</td>
<td>Sources may not always receive attribution. Some or little content is</td>
<td>Sources may not always receive attribution. Some or little content is</td>
</tr>
<tr>
<td></td>
<td>use introductory phrases and transitions in order to smoothly integrate text?</td>
<td></td>
<td>the text.</td>
<td>the text.</td>
<td>satisfactorily incorporated into the text.</td>
<td>satisfactorily incorporated into the text.</td>
</tr>
</tbody>
</table>

**Evaluator Initials:**

If students do not meet the marginal level, please score as 0.

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**Comments/Observations:**

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**Total:**
Appendix B:

1. How has your process for doing academic research changed since the beginning of the semester? Be specific. Give examples.

2. Describe your process for evaluating and selecting sources for your research assignments in Writing 10. How did you decide which sources to use and which not to use? Did you add or change sources for your final assignment after turning in your annotated bibliography? If so, please explain why.

3. What challenges did you encounter when doing research for your assignments in this class? What strategies did you use to overcome them? Be specific. Give examples.

4. Have your attitudes and perceptions (confidence level) about doing research changed over the course of the semester? Be specific. Give examples.

5. Did learning more about the research process in this class help you in other classes this semester? Do you think it will help you in future classes? Be specific. Give examples.

6. Think about the research you’ve done this semester, and describe what you think it means to “Think Like a Researcher?”
### Appendix C  Rubric – Student Reflections: TRAIL WRI 10

*If students do not meet the marginal level, please score as 0.*

<table>
<thead>
<tr>
<th>Concept</th>
<th>Guiding Question</th>
<th>4 Advanced</th>
<th>3 Developing</th>
<th>2 Emerging</th>
<th>1 Marginal</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Research Changes</td>
<td>To what extent has a student incorporated new practices into the academic research process?</td>
<td>Clearly outlines a <strong>minimum of two</strong> new or increasingly sophisticated research practices. Demonstrates <strong>maturity</strong> in the research process.</td>
<td>Clearly outlines a <strong>minimum of two</strong> new or increasingly sophisticated research practices. Demonstrates <strong>strong progress</strong> in the research process.</td>
<td>Outlines a <strong>minimum of one</strong> new or increasingly sophisticated research practice. Demonstrates <strong>some progress</strong> in the research process.</td>
<td>May or may not outline a <strong>minimum</strong> of one new or increasingly sophisticated research practice. Demonstrates minimal <strong>progress</strong> in the research process.</td>
<td></td>
</tr>
<tr>
<td>Source Selection</td>
<td>Is the student using good judgment to select appropriate sources?</td>
<td>Provides a thoughtful rationale for determining the selection of sources. Refers to a minimum of three appropriate criterion in source selection considerations.</td>
<td>Provides a thoughtful rationale for determining the selection of sources. Refers to a minimum of two appropriate criterion in source selection considerations.</td>
<td>Provides an adequate rationale for determining the selection of sources. Refers to a minimum of one appropriate criteria in source selection considerations.</td>
<td>Provides a limited, incomplete, or superficial rationale for determining the selection of sources. May or may not refer to using appropriate criteria in source selection considerations.</td>
<td></td>
</tr>
<tr>
<td>Challenges</td>
<td>Is the student overcoming research challenges with useful strategies?</td>
<td>Clearly identifies a <strong>minimum of two</strong> research challenges and provides highly <strong>useful</strong> strategies for overcoming them.</td>
<td>Clearly identifies a <strong>minimum of two</strong> research challenges and provides <strong>some useful</strong> strategies for overcoming them.</td>
<td>Identifies a <strong>minimum of one</strong> research challenge and provides at least <strong>one useful</strong> strategy for overcoming it.</td>
<td>Identifies one or more challenges but lacks useful strategies for overcoming challenges.</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>Does the student convey the attitudes required of a researcher?</td>
<td>Tone and text <strong>clearly convey</strong> a positive attitude about the research process. Changes in research practices clearly indicate growth.</td>
<td>Tone and text <strong>usually convey</strong> a positive attitude about the research process. Changes in research practices clearly indicate growth.</td>
<td>Tone and text convey, at minimum, <strong>some positive attitudes</strong> about the research process. Changes in research practices indicate <strong>some growth</strong>.</td>
<td>Tone and text convey <strong>some or limited positive attitudes</strong> about the research process. Changes in research practices indicate <strong>limited growth</strong>.</td>
<td></td>
</tr>
<tr>
<td>Transferability</td>
<td>Is the student applying research to other academic needs?</td>
<td>Demonstrates a <strong>strong understanding</strong> of the applicability of the research process to other academic needs. Clearly identifies and illustrates with a <strong>minimum of two</strong> specific examples.</td>
<td>Demonstrates a <strong>solid understanding</strong> of the applicability of the research process to other academic needs. Clearly identifies and illustrates with a <strong>minimum of one</strong> specific example.</td>
<td>Demonstrates <strong>some understanding</strong> of the applicability of the research process to other academic needs. <strong>May or may not illustrate</strong> with one or more examples.</td>
<td>Makes a <strong>limited connection</strong> between the applicability of the research process to meeting other academic needs. <strong>May or may not illustrate</strong> with one or more relevant examples.</td>
<td></td>
</tr>
<tr>
<td>Think Like a Researcher</td>
<td>Does the student understand the thinking required of a researcher?</td>
<td>Illustrates a <strong>strong understanding</strong> of the researcher mind-set. Refers to a <strong>minimum of three higher-level thinking characteristics</strong> required of researchers.</td>
<td>Illustrates a <strong>solid understanding</strong> of the researcher mind-set. Refers to a <strong>minimum of two higher-level thinking characteristics</strong> required of researchers.</td>
<td>Illustrates <strong>some understanding</strong> of the researcher mind-set. Refers to a <strong>minimum of one higher-level thinking characteristic</strong> required of researchers.</td>
<td>Illustrates a <strong>limited understanding</strong> of the researcher mind-set. May tangentially refer to higher-level thinking characteristics required of researchers.</td>
<td></td>
</tr>
</tbody>
</table>

Evaluator Initials:  

Student ID:  

Evaluator Initials: