

Below is a summary of the WDI activities that occurred in ENV201 (Fall 2016), evaluation of the WDI activities, future steps, and a budget request for continuing WDI support.

1. Summary of Writing Instruction and Student Writing Activities (what we did)

For the fifth year, a Writing Development Initiative award allowed for additional instruction in ENV201 that emphasized writing styles used in upper-level ENV courses and by environmental professionals. Through the WDI (1) TAs attended the RGASC Writing TA Training Program to ensure they had the necessary knowledge to support instruction and assessment of student writing, (2) four additional writing-based tutorial sessions were offered, (3) four writing- focused assignments were included in course requirements, and (4) TAs were able to grade an additional assignment (as compared to non-WDI offerings of ENV201).

The WDI-supported writing tutorials occur every other week, opposite the traditional discussion-based tutorials. This creates a structure where an assignment is introduced in a discussion-based tutorial; the following week the writing-based tutorial addresses the type of writing required by the assignment; and the third week students turn in their assignments, discuss the topic associated with the assignment, and receive the next assignment. The cycle repeats itself over nine tutorial sessions (5 discussion-based and 4 writing-focused) and four written assignments.

Mirroring past WDI years, the TAs were provided with detailed packets for each writing tutorial session, which have been updated and improved over the last four years. Each packet includes (1) the central learning objective(s) of that tutorial-assignment pair, (2) a script outlining the background information to be provided to students in tutorial (e.g., definitions of summarize and paraphrase), (3) slides and/or handouts to accompany the script, (4) an in-class exercise directly related to the skills associated with the learning objective, and (5) detailed information on the assignment requirements and assessment criteria. The packets were given to the TAs at the start of the term to ensure instruction and assignment information in all tutorial sections was consistent.

The writing assignments and tutorial sessions addressed the following four areas: reverse outlining; paraphrasing, summarizing, and synthesis; summarizing key results from empirical data tables; and persuasive essays. Assignments and supporting tutorial sessions largely followed the same process as the prior year, with some minor changes to improve clarity of the assignment or tutorial material.

2. Project Effectiveness (how it worked)

This WDI reached the 126 students enrolled in the course. As ENV201 is a required course for all Specialists, Majors, and Minors in Environmental Management and Environmental Science, the initiative ensures all ENV students receive this instruction.

Both TAs assigned in-tutorial instruction indicated that they were comfortable with the material provided and felt the writing tutorials were well-organized. The TAs reported that the quality of the writing was improved as compared to versions of the class without the WDI (two of the three

TAs have been involved in recent summer offerings of ENV201 without the WDI). In particular, we increased the focus on how to properly cite sources this year and, based on turnitin comparisons, we had fewer issue with plagiarism (0 academic offense cases) and incorrect in-text citation practice. This included fewer students over-relying on direct quotes, which we often saw in previous years in the fourth assignment.

Project effectiveness was also evaluated through a student assessment form handed out during the last tutorial session. There was insufficient time in 3 of the 5 tutorial sections, so only 39 of the 126 students enrolled at the end of the term completed a survey evaluating the effectiveness of the assignments and tutorials. The form followed last year's model, with 6 questions using a 5-pt Likert scale (5 representing the most positive response) and two open ended questions. Using the same form as last year allowed for year-over-year comparison.

The first three statements in the assessment sheet (Tables 1-3) addressed students' experiences with the assignments. The average response was above 4 in all but one case, no student selected '1' and few students selected "2", indicating the majority of the students felt that the writing goals, assignment steps and marking matrix were clearly communicated on the assignment sheet or in tutorial. The average score was quite similar to the 2015 scores in nearly all cases.

Table 1. Statement: The writing goals associated with the assignments were clearly communicated.

Topic	Not at all 1	2	Somewhat 3	4	Very useful 5	Raw Average	Fall 2015 Average
Assignment 1 Reverse outline	0	2	4	12	19	4.3	4.2
Assignment 2 Descriptive	0	3	14	13	9	3.7	4.0
Assignment 3 IMRD	0	3	4	20	11	4.1	4.1
Assignment 4 Argumentative	0	3	5	16	15	4.2	4.2

Table 2. Statement: The steps needed to complete the assignments were clearly described on the assignment sheet or in tutorial.

Topic	Not at all 1	2	Somewhat 3	4	Very useful 5	Raw Average	Fall 2015 Average
Assignment 1 Reverse outline	0	1	5	10	20	4.4	4.4
Assignment 2 Descriptive	0	0	8	14	14	4.2	4.1
Assignment 3 IMRD	0	0	5	13	18	4.4	4.3
Assignment 4 Argumentative	0	0	3	10	22	4.5	4.3

Table 3. Statement: The marking scheme was clearly presented on the assignment sheet or in tutorial.

Topic	Not at all 1	2	Somewhat 3	4	Very useful 5	Raw Average	Fall 2015 Average
Assignment 1 Reverse outline	0	1	3	15	15	4.3	4.3
Assignment 2 Descriptive	0	3	2	12	17	4.3	4.2
Assignment 3 IMRD	0	1	3	13	16	4.3	4.3
Assignment 4 Argumentative	0	1	3	15	15	4.3	4.3

The last three statements on the survey (Tables 4-6) referred to writing instruction during tutorial sessions. The average responses were high 3s or low 4s, and generally in line with 2015 averages. Thus, many students felt the writing instruction not only helped with the associated assignment, but improved their writing skills in specific ways that would be useful in other classes. The writing instruction associated with the second assignment (descriptive writing) was identified as more useful than the other assignments although students were less inclined to see how that instruction contributed to their writing skills. It is unclear why this is the case, but may be because students have trouble understanding how practice with different writing styles is useful beyond a specific assignment.

Table 4. Statement: The tutorials addressing writing skills helped me complete the assignment.

Topic	Not at all 1	2	Somewhat 3	4	Very useful 5	Raw Average	Fall 2015 Average
Assignment 1 Reverse outline	2	0	7	14	15	3.9	4.2
Assignment 2 Descriptive	1	3	15	11	8	4.6	3.9
Assignment 3 IMRD	2	4	8	17	7	4.3	4.0
Assignment 4 Argumentative	1	2	9	14	11	3.9	4.1

Table 5. Statement: The writing instruction provided in tutorial has helped me improve my writing skills.

Topic	Not at all 1	2	Somewhat 3	4	Very useful 5	Raw Average	Fall 2015 Average
Assignment 1 Reverse outline	0	3	11	8	15	3.9	3.9
Assignment 2 Descriptive	0	3	14	13	7	3.6	3.8
Assignment 3 IMRD	0	2	15	10	10	3.8	3.8
Assignment 4 Argumentative	0	2	11	12	13	3.9	4.0

Table 6. Statement: I believe that the writing skills presented in tutorial will be useful/have already been useful in other classes I will take at UTM.

Topic	Not at all 1	2	Somewhat 3	4	Very useful 5	Raw Average	Fall 2015 Average
Assignment 1 Reverse outline	0	3	5	14	15	4.1	3.9
Assignment 2 Descriptive	0	3	7	12	14	4.0	4.1
Assignment 3 IMRD	0	6	9	11	11	3.7	4.1
Assignment 4 Argumentative	0	4	2	13	17	4.2	4.3

Twenty-nine of the 39 surveys included answers to at least one of the two long-form questions: (1) what is the most useful thing that you've learned about academic writing this term and (2) do you have any suggestions as to how the writing instruction in this course could be improved or changed.

In response to the question about the most useful thing that students learned about academic writing, common responses included how to develop a thesis, summarize and paraphrase material, create a reverse outline, and use topic sentences in paragraphs. These topics are all explicitly covered in the writing tutorials. Based on the written comments, reverse outlining, paraphrasing and persuasive writing were the topic that students were least familiar with prior to the class.

In terms of suggestions for how the writing instruction could be improved, some students wanted more examples in tutorials but most students did not provide a suggestion. Similar to last year a few students felt the focus on writing in the class was not appropriate:

- "I thought it would focus less on writing and more about what was needed to be said on the assignments."
- "For future, focus on lecture material more and less on how to write properly."

3. Reflection and Future Steps (what were learned and what we will change)

Over the last five years, I have modified the WDI related tutorials and assignments based on student and TA feedback. I believe that these activities are now focused on concrete learning objectives that are clearly presented and reinforced through in and out of class hands-on exercises.

I am on sabbatical leave next year, but the CLTA (Andrew Almas) teaching the course has agreed to implement the WDI if funded. He has twice TAed the course so is very familiar with the extra material and assignments that are part of the WDI. I will be providing all of my WDI-related material to Andrew, so he will be able to fully implement the WDI.

There is one component within the course that required improvement based on students'

questions when completing the assignment: clarification of the expected organization of the persuasive essay (assignment 4). I have already made changes to the assignment and associated tutorial materials, so they are ready for next fall. The assignment now clearly asks students to present an argument for one side of the cap-and-trade debate and then raise counter-arguments that the other side may use, followed by points refuting those counter-arguments. Previously the require structure of arguments and counter-arguments was unclear.

There are also two still unaddressed UTM-wide issues that I believe limit the broad goal of improving students' written communication skills. The UTM issues are ones I have raised before, but need to be mentioned again as no real changes have been made.

First, students need much more practice with correct grammar and paper structure, through detailed feedback of their written work that is beyond the scope of this course (even with a WDI and expanded reverse outline assignment). We do not and should not have to provide instruction on basic paragraph structure, crafting informative and concise sentences, and correct grammar. Yet this is the type of instruction many students need.

Second, some (although not all) students are confused by the writing-focus in an environment course. They see it as taking time away from instruction on content of the course and they do not see the relationship between subject-specific course work and writing. I believe this is in part because UTM does not emphasis writing instruction, outside on a varied set of WDIs, so students believe that learning to write is something they did in secondary school and should not be part of their university education. UTM certainly reinforces this belief. A required first year writing course would both dispel the notion that writing instruction and improvement ends with secondary school, while also actually helping students develop their writing skills.

4. Budget (Fall 2017)

With a Fall 2017 enrollment cap of 140, there will likely be 205 TA hours assigned to the course. To implement this writing strategy, I am requesting a total of **189 additional TA hours** for training, tutorial preparation and instruction, and the marking of two additional writing assignments (see breakdown below). This assumes three TAs are assigned to the class, with two running tutorials and all three involved in marking. Based on current TA rates the cost of these additional TA hours is \$9,276.

Table 7. Additional TA hours for the proposed Fall 2017 ENV201 Writing Development Initiative.

Additional TA Duties	TA Hours
Writing TA Training Program (12 hours for 3 TAs)	36
TA meeting with instructor (2 TAs, 1 hr per 4 writing sessions)	8
TA preparation for writing tutorials (2 TAs, 1 hr per 4 writing sessions)	8
TA instruction in writing tutorials (1 hour for each of the 5 sections x 4 sessions)	20
Marking two additional writing assignments (20 minutes per assignment 1; 30 minutes per assignment 4)	117
Total Hours Requested	189