Writing in the Discipline (WRITE-D): A new approach to graduate student writing success

Jessica Daignault (Assistant Professor)

I am an Assistant Professor in the Civil Engineering Department at Montana Technological University and hold a Professional Engineer license in the State of Michigan. I work part-time as a consultant for OHM Advisors contributing to projects in their Environment and Water Resources Group. I received my PhD from Michigan Technological University with a research focus in interdisciplinary work related to the Food-Energy-Water Nexus. Prior to returning to school I was a Project Engineer with SEH, Inc. in St. Paul, MN as part of the Hydrology, Hydraulics, and Water Resources working groups. I have worked for large companies including AECOM and Rio Tinto Minerals which provided me with a strong foundation in environmental compliance, industry, and mining engineering.

Audra N. Morse (Professor and Department Chair)

Audra Morse, Ph.D., P.E., F.ASCE is Professor and Chair of the Civil, Environmental, and Geospatial Engineering Department at Michigan Technological University.

Writing in the Discipline (WRITE-D): A new approach to graduate student writing success

Abstract

Writing, regardless of stage in one's academic career, can be a challenge. For many graduate students, the writing of the dissertation may be the most difficult part of the academic journey. The collection of thoughts, the ability to ground research in appropriate literature, and expressing the topic and research activities so that others reading the work can understand may include abilities and skills a graduate student needs to develop. Writing a dissertation can be a lonely proposition as the graduate student may only receive feedback and support from their advisor. To assist students in reaching their writing goals, the Graduate School at Michigan Technological University piloted WRITE-D: Writing in the Discipline with graduate students in the Civil, Environmental, and Geospatial Engineering Department. The purpose of the WRITE-D program is to provide a dedicated time and space for graduate students to gather within their department to improve writing skills and make progress toward writing goals. Participants are encouraged to set writing goals and plan toward achieving those writing goals. The group provides a social network to work through writing challenges together, with discipline-specific guest speakers providing advice, guidance, and insight. These guest speakers are often faculty members as well as members of industry who can share experience writing within the discipline. The purpose of this paper is to identify the benefits of the guest speakers and content on graduate student writing, examine the impact of dedicated writing time on graduate student writing progress, and explore the impact of WRITE-D on graduate student comradery.

Introduction

Writing can be a challenge regardless of stage in one's academic career, and for many graduate students, composing the dissertation may be the most difficult part of the academic journey.[1, 2] The literature highlights that the feeling of isolation is common among graduate-level writers, which can lead to stress, loneliness, self-doubt and other sentiments that inhibit productive writing.[2-7] Writing a dissertation can be a lonely proposition as the graduate student may only receive feedback and support from their advisor, who may not be successfully filling their writing mentoring needs. The advisor-student relationship is important to the completion of a graduate degree, as the team works together to produce a thesis or dissertation, but advisors may become inaccessible for a variety of reasons.[2, 8] Faculty have limited time to teach courses, complete their own research, and mentor students.[9] Therefore, it is important for students to have access to resources beyond their faculty advisor to successfully complete their degree.

The ability to ground research in appropriate literature, collect thoughts, and express research activities requires skills that a graduate student needs to develop. There is a lack of preparation for graduate students to be successful in a graduate research program.[10] Students may have the technical skills required to develop and conduct a research investigation, but are left unprepared to communicate the work they have done and its significance through a thesis, dissertation, or research article required to complete their program.[5]

In response to the writing challenges and needs of graduate students, universities around the country have developed a variety of capacity-building programs.[1] Some universities and graduate programs have responded by developing courses to teach graduate students to write and in other cases, writing centers have offered graduate writing workshops and writing boot camps.[11, 12] Although a dedicated writing space is beneficial, offering the program from a formal writing

center may feel remedial or may be seen as a quick fix rather than a lifelong journey from a student's perspective.[11] Unlike boot camps or workshops, writing groups have the ability to create a community of practice, which can be deepened when coupled with existing outside classrooms and formal writing centers.[9] Although writing centers provide services that benefit graduate students, limited capacity and lack of familiarity with writing in the discipline means graduate students may not obtain the writing support that is required. As such, a variety of approaches are needed to support graduate student writing projects.[9] In review of the literature, articles generally discuss writing in humanities; as such, a need exists to explore informal writing groups in other disciplines, including STEM and engineering.[13] Maher et al. (2013) make the call for higher education faculty and administrators to identify and implement new strategies to provide support to dissertation writers. The Graduate School at Michigan Technological University answered this call with the inception of WRITE-D: Writing in the Discipline.

The purpose of the WRITE-D program is to provide a dedicated time and space for graduate students to gather within their department to improve writing skills and make progress toward writing goals. The program is similar to other writing groups in that it provides a small-group atmosphere, opportunity for discussion, and interaction with peers.[5] The group is unique in that it is sponsored by the Graduate School, but executed within individual STEM departments so that graduate students gain support within their specific discipline. The group provides a fusion of faculty and student support in each session. The group provides a social network to work through writing challenges together, with discipline-specific guest speakers providing advice, guidance, and insight. These guest speakers are often faculty members as well as members of industry who can share experience writing within the discipline. The graduate school piloted this program in

four departments on Michigan Tech's campus including: Physics, Biological Sciences, Biomedical Engineering, and Civil, Environmental, and Geospatial Engineering.

The purpose of this paper is to share the structure of the WRITE-D group with other institutions, identify the benefits of the guest speakers and content on graduate student writing, examine the impact of dedicated group writing time on graduate student writing progress, and explore the impact of WRITE-D on graduate student comradery and well-being. The background and structure of the program will be outlined, data collection methods will be explained, results will be presented, and the paper will conclude with a summary of lessons learned and recommendations to those who would like to implement this program.

Background on the WRITE-D Program

The WRITE-D program is facilitated by a graduate student that is recommended by the department chair, interviewed and hired by the Graduate School, and trained by the campus WRITE-D Coordinator within each participating department. Facilitator training includes two sessions with graduate school staff and the WRITE-D Coordinator and covers an introduction to the program, session guidelines, the role of the facilitator, and writing strategies. Facilitator training is important to establish a direct and explicit vision for each group as determined at the first meeting.[14] Facilitator responsibilities include: promoting WRITE-D at department faculty meetings, recruiting student participants, arranging the meeting location and time, fostering a welcoming and inclusive environment, coordinating the guest speaker schedule, facilitating goal setting for participants' writing projects, facilitating discussion during meetings, recording session notes, and communicating with the Graduate School.

WRITE-D meetings were held once per week during the academic year from Fall 2019 to Fall 2021. The sessions were 2 hours in length, with 30 minutes dedicated to the guest speaker, 10 minutes for questions & answers with the guest speaker, 1 hour for individual writing in a group setting, and 20 minutes for goal setting & review. Students brainstormed and selected session topics during the first meeting of the semester based on their writing needs and concerns. Guest and faculty speakers were invited to share their discipline-specific knowledge with student writers based on their expertise. Faculty speaker sessions included time for Q&A, which provided a valuable opportunity for graduate student writers to ask questions they otherwise may not feel comfortable posing to their advisor. Some topics were repeated from semester to semester depending on student needs. A total of 16 different topics were covered by 10 faculty speakers from the Department of Civil, Environmental, and Geospatial Engineering (CEGE), one external faculty speaker, two industry speakers, three Michigan Tech employee speakers, and two student speakers. The topics and speakers are summarized in Table 1.

Table 1. WRITE-D Topics and Speakers

Topic	Speaker
Citations & Avoiding Plagiarism	CEGE Faculty
Conducting Effective Literature Reviews	CEGE Faculty
Overcoming Writer's Block	CEGE Faculty
Effective Writing in Civil & Environmental Engineering	CEGE Faculty
The Publishing Process	CEGE Faculty
Technical Writing in Industry	Industry Professional
Organization & Task Break-Down	CEGE Faculty
Assigning Authorship	CEGE Faculty
Writing at a National Laboratory	Industry Professional
Reader Expectation Theory	Student
Publication Graphics	External Faculty
Manuscript Revisions & Editing	CEGE Faculty

Effective Storytelling	External Faculty
Relationship & Dynamic with Advisors	CEGE Faculty
Grammar Review	MTU Employee
Zettlekasten Note Box	Student

After the guest speaker finishes presenting their topic and taking any questions from writing group members, there is up to ten minutes for students to verbalize their goals for the writing session. In a round table format, each participant designates a goal to work toward during that day's session. Quiet writing time begins after goal setting, with each participant writing individually on their laptops in a group setting. Participants are welcome to ask questions of their peers during the quiet writing time, or save them for the end of the session. The structure of the quiet writing time varied. Some weeks, the group used the Pomodoro technique, with two 25-minute silent writing sessions and two 5-minute breaks to check text messages, social media, or email. Other weeks were less rigid, and students were welcome to use the time in a structure of their choice.

At the conclusion of the one-hour quiet writing session, the round table format was used as an opportunity for students to verbalize what they had accomplished during the session, as well as set and review weekly goals. Each participant shared with the group what they had completed during the previous week on their writing projects and designated a new weekly writing goal. Examples of these goals include: finish the introduction section of a manuscript, read and summarize 10 journal articles, submit a chapter of dissertation to their advisor for review, complete revisions on a draft manuscript, etc. The facilitator of the group records both the weekly progress made and goals set so that students have a record of their individual progress

throughout the semester as well as accountability to achieve their goals. The meeting adjourns with each participant having defined a clear writing goal to work on prior to the next meeting.

Materials and Methods

Over the course of a semester, the WRITE-D participants are asked to complete four reflections: a week 1 reflection, a week 2/3 reflection, a mid-term reflection, and a final reflection. The questions from each of these reflections are included in the Appendix. The week 1 reflection seeks to obtain a base level understanding of what each participant would like to learn or achieve from their participation in the WRITE-D program. The week 1 reflections articulate the challenges the participant faces as a writer, their personal writing goals and writing projects for the semester, the help they need with their writing, and suggestions for speaker topics. The week 1 reflection also obtains demographic information like the participant's, name, degree, discipline, year in program, academic/professional background, and the name of their advisor. The week 2/3 reflection, indicating the reflection can be completed between the second and third week of the program, is a check-in to determine if the WRITE-D participant is working towards their writing goals identified in the week 1 reflection. The reflection asks the participants to describe the progress made toward their writing goals and to describe the writing goals for the upcoming week. Finally, the mid-term reflection seeks to obtain information about the benefit of the program. Participants are asked to provide an update on their current writing projects and indicate the type of help needed to address their most pressing writing challenges. The participants are also asked to describe what they value most about the WRITE-D sessions, suggest guest speaker topics, and offer input on how the sessions can be improved. The final reflection asks the WRITE-D participants to review the response to the WRITE-D week 1 reflection to evaluate if their writing challenges have changed, and reflect on progress made

toward accomplishing writing goals. The final reflection asks if the participant believes they made improvements in their writing and investigates whether the writing group helped with the participant's writing or impacted how they seek help with their writing.

The data generated from the 2019 participants that completed the first and final reflections was used in the analysis so that the total impact of the program could be measured and presented in the Results and Discussion section of this paper. The WRITE-D participants were students pursuing masters or Ph.D. in Civil or Environmental engineering and had completed zero to three years in their program. Participants had none to several years in engineering practice. Participation in WRITE-D was voluntary and participation in the reflections was also voluntary.

There are limitations to this work. The work utilized self-reflection surveys, which are susceptible to response-shift bias, which is due to instrument-related contamination impacting the results of self-report measures in posttest design.[15, 16] The bias of the self-reported data could not be measured in the current work. Additionally, the authors acknowledge the results are based on self-perception, which may be influenced by social desirability bias.[17]

Results and Discussion

Five participants completed the final reflection. The final reflection asks "Have your writing challenges changed?" Four of the five respondents noted that writing challenges remain after participating in one semester of WRITE-D; however, their WRITE-D group provided knowledge, resources, and tools to address the writing challenges. WRITE-D was also noted to provide the respondents with an opportunity to apply the knowledge gained from their peers and the faculty presenters to address challenges and improve their writing. One respondent believed strongly that the activities and writing time provided by the WRITE-D program taught them how

to "tell their story." Another respondent noted that WRITE-D has helped them "get my ideas down rather than having a hard time figuring out how to start."

In response to "Which goals have you made progress…" all five participants contribute their success to the WRITE-D program, regardless of the written product (manuscript, proposal, or thesis). Dedicated weekly writing time was explicitly identified by two of the five respondents as impacting goal attainment. Another respondent implied the organized writing time was important as the respondent "would have postponed it [manuscript] for next semester if I did not attend." Two respondents noted the knowledge and guidance the faculty presenters as influencing their progress towards their writing goals. One respondent detailed:

> "I better understand what goes into writing a manuscript, when one is ready to write it, in what order to work on the various sections of the manuscript, and how to successfully select a journal to publish in. All of this was very unclear to me at the start of this group and each faculty member was able to help with clearing up the process."

Another reflection question asks respondents to indicate the goals they have completed. Four of the five of the respondents indicated they have all made progress towards completing their goals. One participant acknowledged that they completed their proposal project and that they felt good about the quality of the content. The respondent implied that WRITE-D contributed to the quality of the proposal.

The reflection also inquires as to why the respondents did not meet their writing goals. One respondent indicated they were happy with their progress and believed they needed to make specific writing goals to ensure measurable success. Through this reflection question, one respondent believes that WRITE-D should be a two hours of dedicated writing time, which is

25% longer than originally developed. They felt "A longer session would be better." Another respondent acknowledged that progress on the actual research itself became a limiter to meeting their writing goals; however, the respondent completed writing their thesis up to the results and conclusions section.

In the final reflection, respondents are asked if their writing has changed through WRITE-D. Two respondents believed their writing had improved and one noted they "were able to write more concisely with detail than I was able to at the beginning of the semester." Two respondents felt WRITE-D changed how they approached writing. One respondent noted "I do not think that my writing has changed in regards to tone, style or choice. I feel that the focus of WRITE-D has been more on how to get writing…" The support by the faculty speakers was deemed a benefit of the program and more time together writing would improve the effectiveness of the program.

In reflecting on "Has writing in a group helped you as a writer?", the theme of accountability emerged from the responses. One respondent noted that "Knowing that everyone else in the room is also working toward a similar goal makes it easy to get things done, even if it is just a small amount." Another respondent noted "It is nice to have other people to help motivate you and who you know are available to help respond to questions and concerns about your writing." Another respondent noted the ease at which they could obtain quick responses to questions and different perspectives and approaches to writing.

When asked if the writing group changed the way you prefer to seek help with your writing, one respondent noted WRITE-D:

> "has changed the way that I prefer initial help. I still prefer going to my advisor for questions, but the group enabled me to get quick sufficient answers that helped me move

forward in my thesis rather than waiting for a response [from my advisor] and then being

able to continue."

Another respondent echoed the above sentiment that WRITE-D has taught them to seek help

early and often. Thus, students feel more empowered to navigate challenges that occur in

writing. Another response indicated that because of WRITE-D, "now I have a plan to write

which I did not have before this group." Additionally, the WRITE-D participants feeling more

comfortable asking faculty and students for help with their writing, and identified that neglecting

to seek help was a hindrance in completing writing assignments timely in the past. One

respondent noted that the WRITE-D program "opened my eyes to the depth of knowledge

required to be successful in writing for academic applications and made me aware of the steps

necessary to get things done."

Six students have participated in multiple semesters of the WRITE-D program. As such, they

have completed the week 1 initial reflections more than once, allowing for a longitudinal review

of the impact of the program on student comfort with writing. With regard to time management

challenges faced as a writer, respondents changed their perceptions from knowing that they need

to carve out time to write to maintaining the WRITE-D placeholder in their schedule. The

respondents acknowledge the need to support themselves by not giving their writing time away.

In the first semester of participation, respondents use broad terms to acknowledge that writing is

a challenge or blame English as a second language as a lack of success in writing. However, the

initial reflection in subsequent semesters of participation show that respondents see the new

challenge of editing their work. Or they identify vocabulary and grammar as writing areas for

improvement. Subsequent participation in the WRITE-D program seems to alter how students

think about their writing. Additionally, the WRITE-D program impacts who the students seek out for help. When participants first join WRITE-D, generally they indicate that they seek their professor for writing help. Although their professor remains a source of help, the response of peer support becomes more prevalent in returning WRITE-D participants.

Conclusion

WRITE-D is a discipline-specific graduate student writing group that is sponsored by the Graduate School and executed within individual departments by student members. The group offers dedicated writing time, student comradery, exchange of ideas, and support from faculty within the department who answer discipline-specific writing questions and share their expanse of knowledge. The program was piloted in the CEGE Department at Michigan Technological University and was well-received by students.

Feedback collected through the reflections indicated that the group facilitated progress towards completion of graduate student writing goals, nurtured a sense of community amongst peers, and provided access to discipline-specific faculty expertise. The program successfully addresses documented concerns from the literature, such as feelings of isolation and loneliness as students navigate the graduate school program, limited access to or comfort with getting instruction and answers from the faculty advisor, and a call for institutions to identify and implement solutions for graduate student writing education. Six students returned to the group for more than one semester and saw continued improvement in their writing progress and an evolution in their writing concerns.

Recommendations for future adopters of a discipline-specific writing program include strong leadership and sponsorship from the University, such as from the Graduate School, to coordinate

and fund the program. Strategic hiring and consistent training of department WRITE-D student facilitators is also important because it provides consistent direction, expectations, and organization for the writing group. During the first meeting, the group should set expectations and provide input on the content they would like to learn more about throughout the semester. Furthermore, participants should commit to the group's success with consistent attendance. Providing department faculty members with information about the writing group, its structure, and its effectiveness is important to foster faculty confidence and participation in the program. The fusion of both faculty and student involvement in the program creates a unique opportunity for positive relationship-building within the department, stronger technical writing skills, and a sense of community. The CEGE Department would recommend WRITE-D to other programs looking to provide discipline-specific writing support to their graduate students.

References

1. Phillips, T., Graduate writing groups: Shaping writing and writers from student to scholar. Praxis: A Writing Center Journal 2012.

2. Bell, K., Creating a community of learners: Affinity groups and informal graduate writing support. Praxis: A Writing Center Journal 2016.

3. DeFeo, D. J.; Kılıç, Z.; Maseda, R., From productivity to process: Flipping the writing group. Academic Journal of Interdisciplinary Studies 2017, 5 (3 S1), 544.

4. Doody, S.; McDonnell, M.; Reid, E.; Marshall, S. C., Doctoral Peer Writing Groups as a Means of Promoting Well-Being. LEARNing Landscapes 2017, 10 (2), 145-157.

5. Ferguson, T., The 'write'skills and more: A thesis writing group for doctoral students. Journal of Geography in Higher Education 2009, 33 (2), 285-297.

6. Fajt, V.; Gelwick, F.; Loureiro-Rodríguez, V.; Merton, P.; Moore, G.; Moyna, M.; Zarestky, J., Feedback and fellowship: Stories from a successful writing group. Working with faculty writers 2013, 163-174.

7. Maher, M.; Fallucca, A.; Mulhern Halasz, H., Write on! Through to the Ph. D.: Using writing groups to facilitate doctoral degree progress. Studies in Continuing Education 2013, 35 (2), 193-208.

8. Aitchison, C., Writing groups for doctoral education. Studies in higher education 2009, 34 (8), 905-916.

9. Kinney, T.; Snyder-Yuly, J.; Martinez, S., Cultivating graduate writing groups as communities of practice: A call to action for the writing center. Praxis: A Writing Center Journal 2019.

10. Maher, D.; Seaton, L.; McMullen, C.; Fitzgerald, T.; Otsuji, E.; Lee, A., 'Becoming and being writers': The experiences of doctoral students in writing groups. Studies in Continuing Education 2008, 30 (3), 263-275.

11. Fever, B. C., Building for sustainability: Dissertation boot camp as a nexus of graduate writing support. Praxis: A Writing Center Journal 2013, 10 (2).

12. Brooks-Gillies, M.; Garcia, E. G.; Kim, S. H.; Manthey, K.; Smith, T. G., Graduate Writing Across the Disciplines: Identifying, Teaching, and Supporting. 2020.

13. Gradin, S.; Pauley-Gose, J.; Stewart, C., Disciplinary differences, rhetorical resonances: Graduate writing groups beyond the humanities. Praxis: A Writing Center Journal 2006.

14. McMurray, C., A systematic approach to graduate writing groups: Facilitator, first meeting, and feedback structure. Praxis: A Writing Center Journal 2017.

15. Howard, G. S., Response-shift bias: A problem in evaluating interventions with pre/post self-reports. Evaluation review 1980, 4 (1), 93-106.

16. Bray, J. H.; Maxwell, S. E.; Howard, G. S., Methods of analysis with response-shift bias. Educational and Psychological measurement 1984, 44 (4), 781-804.

17. Krumpal, I., Determinants of social desirability bias in sensitive surveys: a literature review. Quality & Quantity 2013, 47 (4), 2025-2047.

Appendix

Week 1 Reflection Questions

1. Name (First and Last)

2. Briefly describe your academic/professional background.

3. List your degree, discipline, and year in the program.

4. Who is your advisor?

5. What are your writing projects this semester?

6. What challenges do you face as a writer?

7. What are your personal writing goals for this semester? Describe them in a way that is
   SMART: specific, measurable, achievable, relevant, and time-bound.

8. When you need help with your writing, how do you prefer to seek help?

9. Do you have suggestions for guest speaker topics? If so, what are they?

Week 2/3 Reflection Questions

1. Name (First and Last)

2. What progress did you make toward your personal writing goals during today's session?

3. What are your goals for the upcoming week?

Mid-term Reflection Questions

1. Name (First and Last)

2. What do you enjoy most about the sessions?

3. What could be improved about the sessions?

4. What is the biggest challenge you face with your current writing project(s)? You may
   check more than one.

5. If you checked "other," please provide more information.

6. What guest speaker topic ideas do you have?

7. Would a different time work better for the sessions? If so, when?

Final Reflection Questions

1. Name (First and Last)

2. Review your responses to the Week 1 Reflection. Then, answer the following questions.

   1) Have the challenges you face as a writer changed? If so, how? If not, why?

3. Which goals have you made progress towards? How so?

4. Which goals have you completed?

5. Which goals have you not made progress towards? Why do you feel this is the case?

6. Do you think your writing has changed throughout the course of WRITE-D? If so, how

   has it changed? If not, why do you feel this is the case?

7. Has writing with a group helped you as a writer? Explain.

8. Did working in this group change the way you prefer to seek help with your writing?

   Explain.

9. Do you have any suggestions on how to improve WRITE-D?

10. Other comments.

11. Would a different time work better for the sessions? If so, when?