

BME 1130: Dimensions of Cancer

The following narrative describes my experiences as a Buttrick Crippen Fellow. This has been a hallmark of my graduate education, and I am immeasurably grateful to the Knight Institute for supporting my proposal. Course information and final projects can be found online at blogs.cornell.edu/bme1130.

Preparation

I never intended to produce an ordinary FWS. Given the opportunity to construct my own course, I immediately set about the task of maximizing the learning experience of my students. I wanted to ensure that the course added significant value to the undergraduate curriculum and had a lasting impact on the students.

To prepare for the semester, I began by searching for models of exemplary FWS instructors. I discovered John Armstrong, a graduate of the Education department and a leader of the Cornell food justice program. In 2013, John created a course called *Storying the Foodshed*, in which he challenged students to develop a public narrative project regarding food security in Tompkins County. I was amazed by the quality of the student writing, which is available online at blogs.cornell.edu/foodstories. John and I are both members of the Cornell Participatory Action Research Network (cPARN), an organization dedicated to community engaged scholarship. I contacted John, and we discussed strategies to nurture FWS experiences that extended far beyond rhetoric and grammar. We discussed the art of storytelling and the fiat to write with dignity, purpose, and intellectual force. In addition, John shared with me his materials from HORT 1175. His experiences, insights, and generous advice largely informed the direction of my course.

In addition to meeting with John, I had important conversations with Knight Institute faculty David Faulkner and Kelly King-O'Brien. I was especially pleased that Kelly shared with me curriculum from the University of Chicago's *Little Red School House*, as well as digital resources such as *Grounds for Argument*. These resources complemented materials that I gathered from the Council of Writing Program Administrators and writing centers at DePaul, Michigan State, and the AAC&U. Finally, I was gratified by the resources on the Knight Institute website, and especially the essays in *Writing and Revising the Disciplines*. These documents began to shape my identity as a writing instructor.

Outside of my Buttrick Crippen activities, there were two commitments that significantly influenced my course. First, I helped develop a collaboration with a local cancer support center, the Cancer Resource Center of the Finger Lakes. Our partnership facilitates dialogue between scientists, patients, and survivors. As a result of this partnership, I started a tentative process of "revising" my own discipline of biomedical engineering and what it means to study cancer.

Second, I have been deeply embedded within the teaching programs at Cornell, including the CTE, CIRTL, and also the Intergroup Dialogue Project. In addition, I was participating in a workshop series for community-engaged pedagogy, sponsored by the Office of Engagement Initiatives. Finally, I enrolled in ALS 6015: *Teaching in Higher Education*, and I voluntarily attended sessions of *America's Promise* by John Sipple. Together, these experiences revealed the full potential of undergraduate learning. Inspired by the theory and practice of Mezirow, Kolb, Dewey, and Fink, I resolved to create a learning experience that would significantly transform my students' understanding of themselves and the world around them.



There were two resources that explicitly guided my understanding of *writing* as pedagogy. First, the Council of Writing Program Administrators (WPA Council) published a document entitled *Framework for Success in Post-Secondary Writing*. In this report, the WPA explains that writing courses serve two purposes: to provide instruction in reading, writing, and rhetorical analysis; and to cultivate the underlying "habits of mind" that support academic success. The first category includes composition, conventions, and instrumental thinking skills. The latter includes more abstract dispositions such as curiosity, persistence, flexibility, and metacognition. According to the WPA, these habits of mind are essential for success in college writing. The *Framework* report portrays writing as a mechanism of inquiry and discovery, and it includes concrete exercises to enhance these qualities.

In addition to the WPA *Framework*, my writing philosophy was influenced by Stefan Senders, the owner of Wide Awake Bakery. In his free time, Stefan works at the Enaudi Center to help candidates apply for the Fulbright Fellowship, and he teaches a biannual writing workshop on the philosophy and psychology of writing. Stefan has an unconventional perspective on writing, which has been refined through his experiences as an instructor. He views scholarly writing as an existential dilemma, in which the author grapples with their multiple identities and insecurities. Stefan urges participants to write with generosity and gratitude: "Your readers are suffering and deserve your kindness; have compassion for the unhappy readers." Stefan's spirit of unapologetic candor and non-duplicity appealed to me, and I resolved to imitate his philosophical and psychological approach to teaching writing.

Based on these guidelines, I formulated the learning objectives for my course, which can be found in the syllabus on my course website (blogs.cornell.edu/bmel130). I used reverse course design to devise a logic model to achieve the long-, mid-, and short-term aims. Importantly, I used Qualtrics to create an assessment tool to monitor progress toward the overall course goals. This assessment was used each month to ensure that students were familiar with the intended learning outcomes. In addition to completing the writing assignments, students were continuously involved in evaluating their learning.

My idealistic aspirations were difficult to put in practice; I struggled to articulate concrete learning strategies to operationalize my ideas. I had a vague sentiment that the students would be set on fire, their passions would be ignited, the course would somehow make them more fully alive and human. I wanted my class to elicit an inexpressible sense of wonder, commitment, and fulfillment. But where to begin?

Originally, I crafted a syllabus cataloging the content and instructions for the course, but I knew (from intuition, experience, and plentiful research) that didactic instruction was unlikely to achieve the desired results. During a conference of the AAC&U, I encountered members of the Stanford Design School. Students exhibited the passion and engagement that I envisioned for my students. At the conference, Stanford design students wore t-shirts, which contained the slogan on the right; in short, students play an active role in shaping and guiding their own learning experience. This became a central theme in my classroom.

I decided that my course would operate like an engineering project team, in which students were largely responsible for formulating the methods and goals of their learning experience. For the first assignments, students would propose a topic of inquiry that related to cancer in Ithaca and Tompkins County. The proposal would include a provisional timeline, research strategy, and a series of writing products that would emerge from their investigation. In our 1-on-1 meetings, I planned to discuss these proposals with the students and determine a clear path forward.

we believe students can change the world.
our ideas matter. our efforts can make the difference.
OUR FUTURE DEPENDS ON IT. *we have the ability:*
to lead when LEADERSHIP is required; to exercise HUMILITY when not; to COLLABORATE with others on creative solutions; to ADAPT with our ever-changing environment; and to keep our LOVE of CONTINUOUS learning alive until our last breath. we are leading a

movement

across AMERICA to bring together **ENGINEERS & DESIGNERS, scientists & sociologists, STEM students & liberal artists.** together we will harness our creative potential, invent truly **INNOVATIVE** solutions, hone our **ENTREPRENEURIAL** mindset & bring our **BOLD** ideas to life. -University Innovation Fellows

Implementation

With this plan decided, other pieces fell into place. Before the semester began, I distributed a survey, collecting background information about student writing experiences and relationship with cancer. The first week, I invited a friend from the Cornell Team and Leadership Center to facilitate a dynamic team-building session. The lesson was that students would "play an active role in shaping and guiding their own learning experience" and foster an interdependent learning community. The session also emphasized the importance of self-care when approaching personal and sensitive subjects, and it fostered camaraderie among the students. By the end of the week, they knew the names and personalities of their classmates.

In the second week, the class examined the role of author identity. A colleague from the Intergroup Dialogue Project led exercises to elicit critical consciousness and multicultural awareness. Through these activities, students became more sensitive to the fact that their perspectives were distorted by the lens of their own life history. For their first assignment, students wrote personal narratives exploring their identities and how it influenced their attitude toward healthcare, medicine, and disease. In turn, we discussed how these attitudes translated into the priorities and choices of scholars and writers.

In the third week, our attention shifted toward community. Students began to explore the local landscape of cancer, including institutions like Cayuga Medical Center and Cornell, but also the demographics and culture of the city. Students identified organizations that were most active in the cancer community, like the Cancer Resource Center of the Finger Lakes. We also discussed the ethics of community-engaged scholarship. By February break, students drafted a proposal for a semester-long project to reduce the burden of cancer in Tompkins County.

The remainder of the class flowed naturally from this foundation. As their projects unfolded, the students posted weekly updates on a Blackboard message board. Each day, we had a free-writing assignment to expand their concept of the project. Every week I hosted an external speaker from an association involved in cancer care or cancer research. In addition, each student was required to participate in three extra-curricular activities related to their proposal. In many cases, these activities proved to be the most significant moment in the semester. As time progressed, it was clear that students were indeed achieving the vitality and enthusiasm that I so earnestly desired.

I was diligent about emphasizing the centrality of writing throughout the class. Early this year, I discovered [*Adventures in Writing*](#), an online writing tutorial from Stanford University. I used portions of this tutorial during class. I also pulled in some of Kelly's materials from the *Little Red Schoolhouse*, John's resources from HORT 1175, and documents from Stefan's writing workshop. Altogether, the course blended a wide variety of writing instruction with a meaningful exploration of cancer.

By the middle of the semester, students had astronomically accelerated their productivity. At any moment, I had dozens of discussion threads circulating. Students created a GroupMe to coordinate extracurricular activities, such as a booth at the annual *Relay for Life*. Matt raised over \$300 to send a child with cancer to a dedicated summer camp. Four students volunteered at Cayuga Medical Center's *Blue Bottom Boogie*, where they constructed an exhibit to promote colorectal cancer awareness illustrated to the right. Sasha connected with a local photographer, Sheryl Sinkow, who had done self-portraits of her mastectomy. Kelechi organized a tour of the Cornell synchrotron, which is an oversized version of the



Naturally, there were multiple points at which things went wrong. A particular teaching moment occurred when a student submitted materials that were copied (with minor alterations) from a Wikipedia page, necessitating a candid discussion about academic integrity. When North Campus was smitten by the annual flu outbreak, I had to accommodate dozens of absences. One student was bedridden for over a week with an injury. Another student was afflicted by a series of personal crises that set back his academic progress. Sadly, one student chose to withdraw due to family concerns. There were also setbacks in the instruction, as I learned how to navigate logistics, deadlines, and content management. The semester was not without struggles.



Nevertheless, the semester ended altogether too quickly. After spring break, there was a veritable blizzard of writing, reviewing, and revising. Final products also emerged: Emma submitted her project to Shutterfly for printing. Eesha printed glossy copies of her documents using Cornell Print Services, which she distributed at the Cancer Resource Center. Nancy chose to publish her documents on a Wix site, and she contacted the communication specialists at Gannett Health Center about uploading her fact sheets on cancer prevention to their student health webpage (which they later agreed to do). Jerry, who had been writing about biomedical research, acquired a summer internship in a cancer research laboratory. Shikha launched a new student organization dedicated to skin cancer prevention. The fruits of this semester clearly exceeded the boundaries of the classroom.

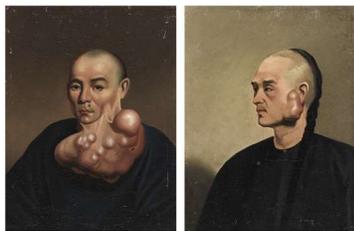
Reflection

Looking back at the semester, several factors clearly contributed to an enhanced student experience. First, I was infinitely grateful for the help of two voluntary co-instructors, Jason Hungerford and Alexandra McGregor. Jason and Alex each attended about half of the sessions, and provided invaluable sources of inspiration, encouragement, planning, and instruction. Jason is a colorectal cancer survivor and long-time volunteer at the Cancer Resource Center; he generously invited students to attend support groups at the CRC, reviewed drafts of their projects, and facilitated a simulation of psychosocial support with my students. Alex is a cancer researcher at Cornell and a volunteer at the Cancer Resource Center. Based on her own life experiences, Alex was a wonderful mentor and confidant for students who were grappling with their cancer narratives. Both Jason and Alex provided immeasurable support to me in planning and executing the class.

I also gratefully acknowledge the beautiful spaces in the Africana Studies Research Center. I was delighted to have two lovely rooms available: one designed for seminars and studio sessions (ASRC 111); the other arranged for guest speakers and less formal discussions (Hoyt Fuller Room). Both rooms had wall-to-wall windows overlooking a large natural area, and provided sunlight and refreshment. In an unbelievable act of generosity, the Africana Center provided complimentary snacks and coffee for my students each week. The administrative staff at ASRC took exceptional care of my class, and I could not be more grateful for the space that we inhabited.

The most significant boon was the community of individuals and organizations that partnered with my class. Within the class, we had guest speakers representing varied segments of the cancer community: Deborah Danko, a nurse navigator at Cayuga Medical Center; Bob Riter, the executive director of the Cancer Resource Center of the Finger Lakes pictured above; Robert Wiess, professor of molecular genetics at Cornell; Chris Prakash, clinical oncologist at Texas Oncology; Stefan Senders, owner of Wide Awake Bakery; Garrett Heller, IDP facilitator extraordinary; Hannah Rudin,





from the Cornell Team and Leadership Center; Monica, Jum, Mary, Patti, Jackie, and Maki (pictured above), cancer survivors who generously shared their personal experiences of living with cancer. We also had field trips to the Johnson Museum, where we examined images of patients by Chinese medical artist Lam Qua on the left, and we toured the CHESS Synchrotron. These incomparable experiences exposed *dimensions of cancer* that could not be replicated through static documents.

Outside of class, students benefitted from the amazing events hosted in the Ithaca community. Students attended cancer support groups at the Cancer Resource Center; they volunteered at the CMC *Blue Bottom Boogie* and the ACS *Relay for Life*; they toured research centers and attended department seminars; they immersed themselves in the diverse discourse of the cancer community. Of special note, Sasha contacted a local photographer, Sheryl Sinkow, to explore themes of body image during and after breast cancer treatment. Emma conducted interviews with a dozen cancer researchers in biomedical sciences and engineering, taking photos of the research environment. Liz traveled all over Tompkins County meeting with community members and faculty about the institutional landscape of cancer; she was often weeks ahead of the curriculum. In retrospect, students largely attributed these co-curricular activities as the most meaningful experiences of the year.

My students expressed their awareness and appreciation of the course. In the course assessments, I received the comments in the box to the right. On the semester evaluation, students scored an average of 4.6/5 on categories related to effectiveness, expertise, clarity, and interest. The class received a 5/5 on overall quality and 5/5 in comparison with other classes. Students' satisfaction was best captured in the e-mails I received this summer, articulating appreciation for the time we spent together. The voluntary gratitude is personally rewarding and wonderful testament to a successful journey.

Most importantly, thanks to my students, whose inexhaustible enthusiasm and curiosity supplied the impetus for the course. Each student displayed a remarkable commitment to their projects and to their peers. Students vastly exceeded my requirements, going “above and beyond” to advance the quality and impact of their work. In the course evaluations, students reported working an average of 5.7 hours per week outside of class. Moreover, they invested a level of creativity, diligence, and persistence that yielded phenomenal writing samples. In addition to their expository essays, students produced a podcast, videos, photo stories, websites, booklets, brochures, and artwork. The cumulative time, energy, and resolve of these 15 students yielded a breathtaking compilation of resources to advance the well-being of cancer patients in our community. I am indebted to this inaugural cohort of brilliant and enthusiastic scholars for extending and enriching the Ithaca cancer community.

Student Evaluations for *Dimensions of Cancer*

“I appreciate how everyone related to this class is going above and beyond to make this class as good as it can be. It is making me think more than any other class ever has.”

“This class has been novel for me in the way it approaches learning, and I have enjoyed it more than any structure I have experienced in the past.”

“The most important aspects for learning process that are stressed in this class are the principles of independent learning and lifelong learning. I believe these will be invaluable tools in the future.”

“I am definitely spending a ton of time on my project, but it is more about learning for it for its own sake and then I get to make a really cool project as a side effect.”

“For the first time in my life, I found a class that I personally gained something besides a letter grade or a good test score...The information and experiences I gained from taking this class will stay with me for a lifetime.”

I am so glad that I took this class; I feel I have personally gained so much from it and grown as a person.”

I appreciate that this class is centered around the student and what he/she wants to get out of this class. That truly illustrates the student's value he/she places on these products and truly learning about cancer and the surrounding community

At times it was frustrating dealing with loop holes in my project, but I enjoyed working through them or planning how to work through them moving forward.

I feel like I have really gotten to know the other students in this class. I like how the class is really engaging, and that we all feel comfortable to share our ideas with each other.

The class interacts with each other in this class more than in any of my other classes, which is a good thing

The structure of the class provides enough freedom to explore cancer related topics outside of class while also supplying enough pressure and time to stay on track with our projects.