CHAPTER 5.
GROWING A WAC PROGRAM ALONGSIDE A NEW COLLEGE

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California Northstate University (CNU) began with the mission to advance the art and science of healthcare. As the university’s undergraduate arm, the College of Health Sciences (CHS) was specifically developed to prepare students for careers in the health professions. From our college’s first months of existence in 2015, we have implicitly and explicitly developed a curriculum with writing at its foundation. From life and physical science classes to arts and social science coursework, an emphasis on accurate, lucid written communication grounds our outcomes at all levels, including nearly every culminating course assignment rubric. To foster buy-in from our students regarding the importance of written communication—many students come to our college unaware of the significance of writing in all health professions—faculty and administrators first needed to ensure we shared compatible visions for writing in all undergraduate classes. Though it has required a shift in focus on the part of faculty, many of whom trained in distinct disciplines that champion publications but eschew direct writing instruction, our process has yielded successes and insights into ways to improve.

CHS combines a life and physical sciences curriculum that aligns with the humanities and social sciences to develop dedicated, lifelong learners possessing

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strength of character and interpersonal skills beyond any single discipline on which their education is based. To accomplish the goal of cross-discipline training for future health practitioners, CHS has developed a hierarchical scheme (Maher, 2004; Nusche, 2008) of learning outcomes (LOs) that students must master by graduation. Faculty incorporate writing to learn, writing to engage, and/or writing to communicate in CHS courses, lower and upper division, so graduates are prepared to demonstrate respect, empathy, and cultural competency toward the communities they are serving. LOs provide structure and expectations that faculty utilize when creating their courses to ensure comprehension of the unique content knowledge specific to disciplines while building the key skills that students need to be successful upon graduation. Student mastery of the LOs is monitored by the faculty throughout courses via quizzes/exams and signature assignments. Over the last six years, we have developed assessments aligned with Bloom's Taxonomy and, correspondingly, writing to learn, engage, and communicate. Following best practices in education research (van de Pol et al., 2010), faculty scaffold assignments to provide students multiple chances to improve and receive feedback from instructors prior to final assessments. As a demonstration of writing in the disciplines, first-year lab courses link each lab experiment with a specific section of a full lab report. By not requiring a full report for each lab, instructors focus on mastering specific elements of the report that, by semester's end, they can fully model. The guidelines for each lab report derive from criteria for peer review articles in the physical sciences, most notably the American Chemical Society, a physical and concrete reference for students. Writing in the disciplines supports information literacy and interpretation of data as they relate to a student's central hypothesis for the lab. Students build on these skills each semester so that, by their third year, they are writing undergraduate research proposals.

To maintain a cohesive, faculty-driven effort regarding overall curriculum design and development, CHS brings a team of faculty together as the college's Curriculum Committee. This committee is overseen by the dean of academic affairs but relies on members from all academic departments to provide critical feedback, address challenges, create innovative and student-centered experiences, and embed outcome-driven content. A separate faculty body, the Assessment Committee, sets the protocols for tracking student performance on the various LOs. Faculty receive instructions and guidance from beginning to end of course design through workshops and trainings. We have found that when faculty review and revise their course LOs alongside colleagues from other disciplines, discussions about assessment strategies, particularly regarding writing assignments, flourish. Beyond a better understanding of the kinds of writing needed for each course, faculty gain appreciation for the kinds of analytic and rhetorical skills students learn in other courses.
ESTABLISHING COLLABORATION AS A CORE CONCEPT

The founding faculty worked with administrators to create a collaborative environment where faculty become connected with courses across disciplines. At the start of our college, faculty in the same disciplines often worked together to co-develop and co-teach courses. Informal, cross-discipline discussions among faculty blossomed and, due to the close physical proximity of the faculty, the sharing of course documents, pedagogical approaches, and ideas for student support ensued. In recent years, we have increased faculty peer training on crafting assignments and rubrics that promote writing to engage, learn, and communicate. Students find consistent language across courses and disciplines in terms of assessments, expectations, and outcomes, and faculty see direct connections between their work and that of their colleagues. We are developing a connected teaching environment through innovative undergraduate curriculum design that crosses disciplines to encourage student assimilation of general education and pre-professional competencies into a cohesive knowledge core.

After our first year delivering classes, determined efforts to cross disciplinary boundaries led a group of science faculty to participate in a Course-based Undergraduate Research Experience (CURE) workshop to develop a project that could span disciplines. From the workshop, the faculty developed an Interdisciplinary Scientific Learning and Novel Discovery (ISLaND) project to link general biology and general chemistry lab courses across both first-year semesters. This format has allowed for scaffolding of assignments across multiple courses, ensuring students build upon concepts and ideas.

Additionally, multiple faculty could provide assessment of the same LOs. Eventually, further collaborations were made to include first-year English courses, tying together writing assignments. Whilst the first-year courses at CHS develop the writing skills undergraduates need to communicate their understanding of foundational concepts, it is in their final years that they effectively synthesize these skills to demonstrate their grasp of the scientific method as they write and present a research proposal and project. Their capstone project in research combines a literature review to formulate a novel research question along with a reasonable protocol to study their question. This culminates in a presentation of their work during CHS's annual Research Day to the college and invited guests from the wider community. Some students have even presented their work at the university, local, and/or national level. Such collaboration has provided critical preparation for students in their capstone scholarly project, which takes place over two semesters in their junior or senior year. Just as students are consistently assessed throughout their courses, the classes themselves are assessed in multiple ways. As mentioned, the first level of assessment involves
the college’s Curriculum Committee when each course is proposed, followed by a review on a three-year cycle. Faculty revise their courses based on personal reflection, student evaluations, peer evaluations, and student performance. Student focus groups and graduating exit interviews and surveys assist in assessing individual course contributions to the overall CHS curriculum. The foundational structures developed to facilitate review and revision of courses have allowed for the implementation of innovations like rubric-based assessment and self-reflection portfolios, along with collaborations amongst faculty.

**SUPPORTING WRITING THROUGH INTERDISCIPLINARITY**

CHS began with few full-time faculty, directors, and deans, and as our student body has grown, so have faculty numbers. The growth has provided distinct challenges partly because our core full-time faculty must have expertise to teach a variety of classes that do not fit neatly into discrete job descriptions, especially in the humanities and social sciences. Our college’s small size has distinct advantages in terms of student-professor ratios and engagement, and it also means many of us teach across disciplines. Because many faculty have interdisciplinary training, an instructor teaching composition courses might also teach music or philosophy courses; faculty leading communication courses could be asked to teach student success and leadership classes as well. In addition to a background and training in multiple disciplines, a mindset that embraces adaptation—to the needs of students and the college—is required. At CHS, we believe that effective healthcare requires practitioners with knowledge and techniques that transcend disciplines, so we are building a college that embraces and celebrates interdisciplinarity amongst the professoriate.

As our college expands, and we recruit academics with a passion for teaching that embraces ideas from multiple content areas, our returning faculty both mentor and learn from our new team members. Since our first semester delivering classes in 2015, we regularly engage in faculty development sessions led by other faculty so that, for instance, composition faculty can share methods for everything from assignment creation to evaluation. Our service learning faculty demonstrate how to incorporate content and methods from their courses to faculty across the college. When we all have a better understanding of the content of other courses at our college, we better demonstrate to our students the significance of the content they are learning in multiple contexts, thickening the strands that exist between seemingly disparate disciplines. CHS encourages a deep synthesis of the core values of each course in order to be most successful in the health professions. Students achieve this synthesis through completing
reflections and projects that require a substantial amount of writing, no matter the subject. As faculty, communication and collaboration across courses is imperative to the success of student synthesis.

CHS faculty demonstrate the kind of interdisciplinary flexibility our students require and, as Catherine Lyall (2019) notes, an interdisciplinary mindset presents its own obstacles. At CHS, as at other institutions of higher learning, faculty aspire to achieve their own research interests and agendas while navigating institutional limitations: The scope of the research should meet the needs of the students and the college. Most of our faculty earned degrees in specific disciplines, and we trained alongside others with professional goals that often derived from a single discipline. CHS offers one undergraduate degree; however, it does not match the graduate degrees of our faculty, so we teach students who do not envision themselves working in the fields where we received our training. Thus, we connect our own research interests with the needs of our students and show them how the methods, skills, and knowledge we bring to our research also applies to their future work and careers. Though it is challenging to make a case for one’s own field and area of research to the uninitiated, we are invigorated by the reminder that we are educating the next generation of healthcare practitioners: practitioners with a holistic training where no one discipline has natural prominence over another. Importantly, we are developing a new institution built upon the kinds of collaboration that, as Michael Crow and William Dabars (2015) call for, adapts to student needs as we create models and structures of knowledge creation and diffusion (p. 179).

As noted earlier, CHS prizes faculty that can teach beyond a narrow range of courses in part because we are a small cadre of academics seeking to learn from each other. When we take turns teaching the same course as other colleagues, we can share assignments, lesson plans, and advice on what worked in previous semesters. The course improves because of the input from the other faculty, and students benefit from a course infused with different perspectives on the same content. In the past year, we have begun designing courses collaboratively, where all faculty are encouraged to submit feedback to those leading the course’s design. In some cases, like the re-design of our first-year experience course series, discussed in more detail below, the entire planning and implementation phases have included faculty from all disciplines at our college. We aimed to develop a course series that would respond to the needs of students from their first to their last semester, so all faculty were encouraged to participate and share information about the kinds of training students would need to enter their courses, to be attractive applicants for professional and graduate schools, and to be successful practitioners. Rather than working in distinct units/silos, we at CHS recognize that training future healthcare practitioners to be holistic, empathetic individuals
attuned to the needs of their patients requires the synthesis of content from all our courses. To see the training of our students as a nested, collaborative process involving all of us, with no hierarchy of disciplines, faculty confront our own biases to establish an ethos of curiosity through empathetic communication. By encouraging respectful, open dialogue amongst our academic team about everything from content to assessment, we develop CHS courses rather than, say, philosophy or composition or sociology courses.

The cross-curricular inclusion we have established provides faculty with a better understanding of writing assignments in other courses. Recent research presented at the Fifteenth International Writing Across the Curriculum Conference by California State University Northridge’s writing center has shown that transparency around how different faculty write and scaffold assignments creates more equitable opportunities for students to be successful (Payte et al., 2021). In addition, faculty members can reference one another in their own classes, strengthening the ethos between students and colleagues, and ultimately impacting students positively. Though there are some challenges to work out—learning how to assist, respectfully and professionally, in creating the kinds of assignments we would not normally teach, for example—CHS is dedicated to expanding its resources to create robust support systems that impact students’ success in writing and communication across forums.

COURSE COLLABORATION TO LAY A WAC FOUNDATION

One course designed for the CHS experience is our first-year experience (FYE) series: College 100A and 100B. This year-long course was initiated as an interdisciplinary innovation to respond to student needs based on feedback from instructors at all levels in the student’s health science undergraduate education. Having a largely interdisciplinary faculty base, especially in the humanities and social sciences through which foundational writing courses are created and taught, allows for the unique opportunity to build courses that are enriching and offer students the benefit of an interprofessional education beginning in their first semester. The aim is to prepare students to be successful in their undergraduate studies by teaching them strong study skills and self-management strategies. Originally, this course was one unit and taken as a stand-alone in the first semester. As with similar courses, it met some foundational needs of students, but student course surveys revealed that they did not always understand how the content connected to courses they would take in future years and to their future careers as health professionals. Thus, the faculty and administration determined that a course specifically designed for STEM and pre-med students could do more to meet the needs of ever-developing standards and requirements in healthcare education,
such as: placing greater emphasis on empathetic communication, instilling a
greater sense of responsibility to the community, and relaying the importance
of the arts and humanities-based approaches to scientific problems. Achieving
these goals requires significant, substantive, and critical writing, and we endeav-
or to include each of these elements in many of our classes—both STEM and
humanities-based—by collaborating on course plans and inviting faculty across
disciplines to engage with, and support, each other’s content.

To design this new course series, faculty from different disciplines within the
humanities and social sciences department, many with interdisciplinary back-
grounds, formed a work group to identify topics, develop course plans, and
devise assessments. Professors from the realms of psychology, music, English,
leadership, student services, education, and philosophy (subjects with writ-
ing-intensive backgrounds) collaborated to create a two-semester version of the
College 100 course—newly named: *First-Year Experience*—that included, in its
fabric, deeper elements of critical self-reflection, ethical decision-making, and
collaborative problem-solving. In addition, skills relating to self-organization,
clear writing and reflection, communication, and collaboration were also em-
phasized. The intention was that this course would nurture the students’ own
approach to their education in a more holistic and long-lasting way and, in
so doing, foster a sense of self-empowerment and act as a catalyst to motivate
them to uphold the standards set by *First-Year Experience*. This approach is be-
coming widely adopted in graduate-level health profession programs and has
been shown to benefit the practitioner when connecting and working with the
community. Our very own CNU College of Medicine has a three-week leader-
ship, humanities, and arts seminar course named the Wellness Elective, which
addresses many similar components and supports students entering and exiting
the medical school. Each year, more students sign up for the course and report
feeling better prepared for the rigor of residency. Integrating standards and pro-
cedures from multiple disciplines also allows for more successful and productive
engagement in interprofessional shared decision-making (Keshmiri et al., 2019),
which is a large component of the process of learning at CHS.

To support this interdisciplinary approach to writing and learning, we have
garnered robust and varied faculty participation in the Media and Communica-
tion Studio (MCS), CHS’s version of a writing center. In the MCS, we empha-
size the importance of cross-curricular, holistic learning by modeling effective
collaboration as a writing community. One way we encourage buy-in from stu-
dents and staff across programs is to invite faculty volunteers from all disciplines
to participate as tutors and workshop leaders in the MCS. This work constitutes
faculty service so is, in a practical sense, valuable time served for the professor.
Many professors also comment on how rewarding and enjoyable the experience
is because they get to know students they do not currently teach, and they learn how students engage with writing assignments in other courses and disciplines. It also, and perhaps more importantly, offers students a variety of perspectives regarding writing values, styles, and formats across genres and fields. As we are a health sciences-focused institution, supporting a diverse array of subjects in a cohesive and collaborative way is not only helpful, but also highly important for students to receive guidance from faculty in writing in the disciplines. Whether through one-to-one tutoring, or through small groups in workshops, students learn about writing in the disciplines from faculty trained in those fields, and they receive feedback from that same specialized community. All our students aspire to become health practitioners, professions in which one must collaborate frequently with specialists from many areas of expertise. In modeling this collaborative approach, we try to reflect the kinds of interactions our students may witness and have in the future, whilst emphasizing the importance of strong communication skills across disciplines to strengthen transdisciplinary learning.

In 2020, the MCS launched online tutoring and workshops through WC Online, a virtual tutoring platform. Student and faculty participation has risen significantly since we began offering online help, and both faculty and students have gained increased access to the resources provided by the MCS. Workshops cover topics ranging from common grammar pitfalls to research and source integration, and from timed writing assignments for medical school to developing a clear writer’s voice. These workshops are held by faculty volunteers and Peer Assistant Learners, or PALs (students who are hand-picked by faculty and trained to help in the MCS) from both the humanities and core sciences departments, again instilling that writing is not only important in the expected courses, but of utmost significance in science classes, too. Students learn that if one cannot write or communicate effectively and equitably in the sciences, then perhaps core details that are important to the lay public regarding their own health may become lost in translation. As emerging research into comprehending complex information and public attitudes concerning COVID-19 demonstrates, this kind of conveyance of misinformation could have a detrimental effect on public safety (Melo & Cabral, 2020).

During the pandemic, students’ health and sense of connection with the world has been a core focus for CHS. For much of 2021, most classes were delivered synchronously via Zoom so that students could follow health officials’ recommendations for keeping a safe distance from others. In order to promote student engagement with each other and with real-world scenarios, despite students living in different cities and states and attending classes virtually, in January 2021 English faculty commenced a writing partnership with Lassen Volcanic National Park. Lassen gave us a wish list of roughly 150 prompts from over the
last 20 years that they wanted to develop. These projects ranged from highly scientific to broadly educational, and covered issues and research goals specific to the park. We used these prompts to inform writing assignments in our second semester composition classes. We entered this partnership to give students opportunities to create authentic assignments for a truly public audience, and to practice a range of applied writing skills from literature reviews to project proposals and from media-based articles to visual texts. Students created projects that were substantial and useful to the park, and they learned new writing and media skills they had never used before. Through this form of assessment, faculty were also able to engage students on a level that served to contribute to their preparedness for their chosen career paths (Zilvinskis, 2015) by encouraging them to communicate effectively across audiences, be responsible for their research and proposed resolutions, and collaborate as a team to develop and synthesize expertise with the intention of benefiting the community. The projects offered an additional avenue of self-discovery and reflection, which the students found highly valuable and gratifying. In addition, many students said they felt happier through connecting more directly with the outside world and gained a more positive mindset in a socially difficult time (namely COVID-19 and lockdown). This experience solidified the concept that partnering with a national park and bringing that relationship into the classroom, especially during a public health crisis, helped students learn and apply vital communication skills—with the park and each other—whilst honoring a sense of self-care and empathy through writing. We intend to build upon this partnership, and others, and have started to collaborate with other disciplines across the college to help further students’ understanding and appreciation for the impacts of public-focused research and writing, as well as community involvement.

REFLECTING ON SUCCESSES AND GROWTH

From our first year to now, our college’s development has been guided by what we have learned from experience. Community engagement and collaboration across academic disciplines have taken shape by intentionally focusing on WAC and service learning (SL). At CHS, SL is an academic discipline, not an add-on to other courses. As far as undergraduate institutions, CHS is one of the only colleges designating SL as an academic discipline. Additionally, it is a requirement for graduation, and we have capitalized upon these opportunities to make writing an integral aspect of our SL curriculum.

While writing is not the main thrust of SL work outside our institution, it has taken a front-row seat in our curriculum design when creating assessment methods. One example is our signature project proposal (consisting of group
work) where students write to investigate, prepare an action, demonstrate, and evaluate. This assignment, given in our Foundations of Service Learning class (COLL 210), assesses how well students understand, integrate, apply, and communicate the varying academic areas they are studying by writing about health and science topics anchored in SL concepts. SL concepts include warding against the server-served dichotomy while promoting teamwork, critical reflection in action, intercultural communication, professionalism, narrative writing, community research, narrative medicine, and knowledge transfer. Consequently, we rely on scaffolded writing assignments to guide our assessments.

Our partnership with Lassen Volcanic National Park (LVNP) gave the college access to the list of projects and research prompts LVNP shared. Distinct from how our English faculty used these prompts, our SL faculty saw an opportunity for students to develop a project proposal. Student teams investigate a chosen prompt from LVNP tailored for one of our community partners to be carried out during the subsequent course, COLL 220: Service Learning Practicum. In the end, each team delivers an in-depth, written project proposal based on the findings of their chosen prompt and an oral and visual presentation of that proposal to the class and community partners. Each prompt permits writing-to-engage activities crucial for critical engagement. For example, past prompts included an interactive fire lookout map and a three-day workshop on white-nose bat syndrome for K-5 students. Student team proposals are presented at the end of the Foundations of Service Learning course to the intended community partners. Ideally, the proposals are seamlessly carried out during the Service Learning Practicum in the subsequent semester. However, during the COVID-19 lockdown, we adjusted the delivery of the projects and relied on virtual platforms. For example, one group created an interactive map of fire lookouts that LVNP visitors could access through a QR code. This project was envisioned for a local elementary school to raise awareness of how LVNP keeps track of areas where fires are most common. Service learning students explained the chemical reaction of fire, the history behind each LVNP fire lookout, fire safety in parks, how to create QR codes, and how accessible they can be for disseminating information. Based on our work with LVNP, two emerging themes of teaching SL virtually involve: a) witnessing projects using QR codes, and b) following up with LVNP to see how QR codes could be utilized in SL. These two themes confirm that we are heading in the right direction for our young university by creating an educational environment that promotes innovation and leadership while modeling interdisciplinarity among faculty collaborations.

Since returning to in-person class delivery, we have continued to explore collaborations amongst faculty from distinct disciplines in courses that are traditionally taught by faculty in the life and physical sciences, like Course-based
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Undergraduate Research Experiences (CUREs). In fall 2021, we launched CUREs team-taught by an SL faculty and a chemistry faculty, and another section taught by an interdisciplinary humanities and social sciences faculty. In these research-based courses, one student wove together computational drug discovery and service learning to generate a deliverable for a local community partner and a research presentation for the CHS campus. The collaboration provided students with feedback from experts that they might not normally consult, and it also afforded an opportunity to evaluate how faculty communicate about the projects and their assessments. As the semester progressed, the faculty recognized the need to revise assignments and the rubrics used to assess them. A greater emphasis needed to be placed on writing to learn and to engage rather than writing in the disciplines as the students first needed to prioritize communicating about the research and performing analysis. Though the final project poster’s goal aligns with writing in the disciplines, too much too early was asked of students, and this stunted their learning as they were overwhelmed with trying to create texts that conformed to the conventions of the discipline.

Lastly, with our collective academic experiential knowledge, we are developing an educational portfolio assignment to use in SL and other courses. Our goal is to introduce students to the ePortfolio during the Foundations of Service Learning course and have them create a webpage through our learning management system. Our SL courses are at the 200 level (the range is 100 to 400), so students will have time to add content as they continue through their undergraduate education. We believe that the ePortfolio aligns well with our vision for a more holistic approach that embraces multiple academic disciplines and encourages creativity, innovation, and leadership with a focus on healthcare.

While there are numerous studies on the development and use of educational portfolios (e.g., Buyarski et al., 2015; Eynon, Gambino, & Török, 2014; Slepcevic-Zach & Stock, 2018; Yancey, 2019), there are two general uses for educational portfolios we focused on: reflective and comprehensive portfolios (Roberts et al., 2014). In 2015, a national survey by the Association of American Colleges and Universities found that “93% of employers believe that a candidate’s demonstrated capacity to think critically, communicate clearly, and solve complex problems is more important than his or her undergraduate major” (Hart Research Associates, 2015). We know that students have individual strengths and weaknesses. Still, it can be challenging to cater to each student and celebrate their uniqueness in a system often driven by LOs and assessments. We are learning more about how ePortfolios can represent each student in ways that end-of-course summative exams and assignments simply cannot. We are designing the ePortfolio with input from multiple academic areas to help students curate their online persona. Students will have autonomy to document and share
their learning experiences through writing to engage. Using ePortfolios, students will highlight their critical thinking, communication, problem solving, and other skills through particular artifacts, e.g., service learning projects, Science Research Day projects, and writing assignments of their choice.

At a broader level, CHS faculty are devising a mechanism for students to develop an undergraduate work ePortfolio highlighting signature assignments across all their courses during their tenure at CHS. Through the ePortfolio, students will track their mastery of the various learning outcomes and showcase their achievements on professional school, internship, and job applications. The samples of written work from various courses provide insight into individual growth and strengths and help each student showcase their individual gains. CHS will encourage students to provide examples of interdisciplinary coursework as well as extra-curricular and co-curricular activities that display their application of skills acquired. Short self-reflection pieces connect the various sections and provide demonstrations of student learning that they can build upon in professional school. Through critical, written responses, students reflect on how the various parts of their undergraduate curriculum connect in achieving their goal of becoming a healthcare professional. Importantly, the ePortfolio enables them to communicate those gains to multiple audiences.

CONTINUED RESONANCE FOR WAC: SHAPING FUTURE HEALTHCARE PRACTITIONERS

Service learning and course-based research experiences for every student distinguish the CHS curriculum, and we use them to emphasize writing in courses across the disciplines. Our college trains faculty in building course learning outcomes and matching those outcomes to institutional and program outcomes. WAC directly connects writing to learn, to engage, and to communicate to Bloom’s taxonomy, and we infuse that language into our trainings as well. Thus, all CHS faculty have shared tasks and goals: improving how students communicate their insights, their results, and their understanding, no matter the subject matter. CHS aims to empower students to apply critical thinking skills, as well as qualitative and quantitative methods, to one of the most complicated subjects: the intricacies of the human body and the human mind, and how both interact with as well as shape and are shaped by our environments.

REFERENCES

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