# **Studying and Supporting Writing in Student Organizations as a High-Impact Practice**

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**Abstract:** Institutions of postsecondary education, and the field of writing across the curriculum and in the disciplines (WAC/WID) in particular, need to do more to trouble learning paradigms that employ writing only in service to particular disciplines, only in traditional learning environments, and only in particular languages, or in service to an overly narrow or generalized idea of who students are, where they're going, and what they need to get there. In relating a cross-section of a larger effort to study and support writing as a high-impact practice in a student chapter of an international nonprofit humanitarian engineering student organization, I will demonstrate that WAC/WID can and should empower students to use writing in student organizations, especially those that align with the four learning outcomes deemed essential by the National Leadership Council for Liberal Education and America's Promise, as a means of integrating into and interrogating their social and political realities, and reshaping postsecondary education to better meet their needs and goals as individual learners and as citizens in a deliberative democracy.<sup>[1]</sup>

Recognizing the cocurriculum as the site where "some of the most powerful learning in college occurs," the National Leadership Council for Liberal Education and America's Promise (LEAP)(2007) calls attention to the need to "integrate and document the learning students gain from involvement with a campus community" (p. 37). George D. Kuh (2008) likewise acknowledges playing an active role in a student organization can "confer benefits similar to those of high-impact activities" already integrated into the curriculum and thus making consistently measured contributions to student success and retention. Furthermore, Jonathan Alexander and Susan C. Jarratt (2014) note, "cocurricular spaces often designed by students themselves" can provide students a more significant rhetorical education than the traditional writing classroom (p. 528), a finding that aligns with previous research in writing across the curriculum and in the disciplines (WAC/WID) and rhetorical genre studies (Artemeva, 2005, 2009; Devitt, 2004; Freedman, 1993; Russell, 1995, 1997a). Nevertheless, WAC/WID and writing studies more generally have given little attention to writing in student organizations, let alone how writing in student organizations might function as a high-impact practice (HIP). We know little, for example, about how writing in this context contributes to student success and retention as well as curricular learning and transfer or about what challenges and affordances academic programs and departments might face in establishing high-impact writingintensive partnerships with student organizations, especially those that align with LEAP's (2007) four essential learning outcomes for a twenty-first century college education: fostering broad

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knowledge of human cultures and the natural world, strengthening intellectual and practical skills, deepening personal and social responsibility, and practicing integrative and applied learning.

Studying and supporting writing in student organizations as a HIP can help WAC/WID recognize and respond to internal criticism that it has traditionally privileged curricular over cocurricular and extracurricular writing spaces; disciplinary over interdisciplinary and transdisciplinary ways of knowing and writing; academic and professional over home, civic, and alternative discourses; acquisition of Standard English over multilingualism and translingualism; faculty-andadministration-centered over student-centered approaches to teaching, learning, and institutional transformation; learning outcomes over learning incomes; and practices based on generalizations of our students over those grounded in locally situated accounts of their cultural, linguistic, and racial identities (Anson, 2012; Guerra, 2016; Hall, 2014; Kells, 2007; LeCourt, 1996; Parks & Goldblatt, 2000; Poe, 2013; Rademaekers, 2015; Villanueva, 2001). These criticisms remind us WAC/WID can better attend to what David R. Russell (1997a) describes as "a central problem in writing research," i.e. "the relation between writing in formal schooling and writing in other social practices" (p. 504). Reexamining WAC/WID's roots offers one way forward through debates about the appropriate framework for exploring this central problem, and in a way that can empower students to use writing in student organizations to integrate into, interrogate, and reconfigure their social and political realities, as I will demonstrate in relating a cross-section of a larger effort to study and support writing as a HIP in a student chapter of an international nonprofit humanitarian engineering student organization.

### **Studying Writing as a High-Impact Pragmatic Way of Knowing**

Our current understanding of what constitutes a high-impact practice (HIP) aligns with what Russell (1994) identifies as the origins of writing across the curriculum and in the disciplines (WAC/WID) in John Dewey's progressive educational philosophy. Dewey (1916/2008) would likely argue HIPs encourage students to develop pragmatic ways of knowing, or ways to choose for themselves from among a range of habits of perception, and guard against preemptively defining themselves and their social and political realities. For Dewey (1927/1946), social inquiry would be best served by dropping individual/social and disciplinary divides and embracing an understanding of humans and ways of knowing as comprised of and comprising associations. The process of working toward consensus would be one in which identity, society, and knowledge are shaped and tested always at the local level. But when everything is local, how do we account for outside forces that bombard and habituate us? For Dewey (1916/2008), writing offers students a way to map their associations, interpret, deflect, and select these outside forces, and develop the plasticity of habit they will need to actively participate in a deliberative democracy.

Russell (1997a) recasts the above question as central to writing studies by asking, "How can one analyze the macro-level social and political structures *(forces)* that affect the micro-level actions of students and teachers writing in classrooms, and vice versa" (p. 505)? To answer his question, Russell (1997a) wants a

comprehensive theory of writing to explain how doing school, doing work, and doing the other (political, familial, recreational, etc.) things our lives are made of come together through the mediation of writing—or how to trace the ways people change as writers, individually and collectively, as they move within and among various social practices. (p. 505)

The solution Russell (1997a) forwards is cultural-historical activity theory (CHAT), a theory of distributed, culturally- and artifact-mediated cognition that assumes all human activity, especially learning, takes place within activity systems, or "historically conditioned systems of relations among individuals and their proximal, culturally organized environments" (Cole & Engeström, 1993, p. 9). Activity systems are driven toward breakdown or transformation by contradictions arising within and between subjects, instruments, objects, communities, rules, and divisions of labor (Engeström, 2015). In terms of rhetorical genre theory, we might think of a contradiction as a rhetorical exigence, or "a set of particular social patterns and expectations that provides a socially objectified motive" that groups of learners internalize in order to resolve through the creation, employment, and modification of genres (Miller, 1984, p. 158). Now in its third generation, CHAT has evolved into an interventionist research methodology known as expansive developmental research (EDR), which helps communities of learners work across activity systems to develop instruments that enable them to collectively transform every dimension of their activity toward increasingly shared objects (Engeström, 2015).

By explaining how groups of learners collectively develop and transform their social realities through writing, EDR appears well aligned with Dewey's account of how writing can function as a pragmatic way of knowing. But Russell (1997a) rejects Dewey's insistence on symmetry when he places CHAT in contradistinction to actor-network theory (ANT), which is understandable insofar as ANT isn't so much a theory as it is an inoculation against theory; as Clay Spinuzzi (2015) points out, its strength as a tool for writing studies lies in its hesitation to preemptively assign a theoretical explanation to writing activity when the whole point of examining it in the first place is to figure out what it is and how it works. To avoid assigning an explanation to that which we seek to explain, Bruno Latour (2005) recommends embracing five uncertainties: focus not on groups but observable traces of, or controversies about, group formation, which is akin to identifying a rhetorical exigence without assigning it a predictive classification; consider actions not as causes that predict what happens but effects that leave traces of what has happened, since there are always other potentially relevant causes that can't be accounted for; account for both human and nonhuman actors in group formation, which prevents against preemptively explaining differences in or limitations to agency; interpret all matters of fact as matters of concern, or artificial constructions that have to be assembled and can always be disassembled, just like any other group or actor; and render traces of assemblages visible in textual accounts that, like laboratory experiments, can and often do fail because of the demands placed upon them by adherence to the above four uncertainties.

The goal of accounting for all five sources of uncertainty is not to deny everything we know but to explain what we don't in a way that doesn't assume we do or even can; if something's been sufficiently explained, then ANT isn't necessary. When it is, ANT calls for treating all sites of inquiry as local sites connected to other local sites through traceable associations. A textual account, or an account of a text, is therefore only as good as the number of associations that have been rendered traceable, and an actor, or act of writing, or writing-intensive HIP, only as impactful as its associations. In effect, ANT reunites Dewey's pragmatic way of knowing with his political commitment to symmetry; in ANT, as in Deweyan pragmatism, knowledge is best understood and assembled through empirical observation as a pluralism of localities, with associations—and not the individuals, groups, or genres comprised of and comprising associations—as the primary unit of analysis.

Despite acknowledging certain merits of ANT, Charles Bazerman (1988, 1997, 1999), Paul Prior (1998), and Russell (1997a, 1997b) establish a trend in writing studies and related disciplines of borrowing elements from ANT to modify CHAT without ever fully embracing the insistence on symmetry that makes ANT, ANT (Kaptelinin & Nardi, 2006; Prior & Shipka, 2003; Prior et al, 2007;

Spinuzzi, 2008). But the beauty of Dewey's pragmatic way of knowing lies in its insistence that we should maintain a certain level of plasticity in our habits of perception, which, I contend, is as important for us as scholars as it is for our students if we want to study and support writing in student organizations as a high-impact pragmatic way of knowing.

### **The Study**

I conducted my research on writing in student organizations at High Desert University (HDU), a flagship, land-grant, Hispanic-Serving Institution in the southwestern United States with the basic Carnegie classification of Doctoral University: High Research Activity. At the time of my study, the provost was just beginning to brainstorm ways to better integrate and document high-impact practices (HIP) in cocurricular spaces like student organizations. I sought out HDU's student chapter of the International Nonprofit Humanitarian Engineering Organization (INPHEO) after learning about its well project in two partnering communities located in an indigenous territory in lowland Bolivia, thinking I would use expansive developmental research (EDR) to map writing in the student chapter as a HIP aligned with the four essential learning outcomes for a twenty-first century college education (LEAP, 2007). I hoped in turn the results of my study would help the student chapter leaders advocate for increased institutional support for their work, which in turn would benefit HDU in its efforts to integrate and document HIPs in the cocurriculum. From an EDR perspective, what I wanted to learn from Andrea, a third-year prospective chemical engineering major and the student chapter president, was how the chapter used writing to implement their well project in collaboration with their various partners and develop as learners along the way, and what role contradictions played in their attempts to do so.

During my first meeting with Andrea in December of 2013, I learned problems with knowledge transfer were stifling the chapter's progress in completing the series of reports required by the INPHEO parent organization for project implementation. Additionally, Andrea remarked that the chapter's leadership was having a difficult time understanding the well project as bigger than just the design and construction of wells, but requiring considerable coordination with their two partnering communities in Bolivia, a feat that in turn required coordination with HDU anthropology students involved in a joint health and anthropology project operating year-round in the same indigenous territory as the chapter's two partnering communities. Over winter break, the well project leadership dissolved, but Andrea had already been working to arrange a partnership with a civil engineering capstone course for the spring 2014 semester as a way to complete the reports required for project implementation that summer, and she also arranged for her own credit-bearing independent study in civil engineering, which she hoped would allow her to devote more time and energy to her presidency while serving as a liaison between the student chapter, its parent organization, its community partners, and the team of capstone students assigned to the well project. Furthermore, Andrea saw her independent study as an opportunity to learn more about civil engineering, which she was considering pursuing at the time as an alternative major to chemical engineering.

I would spend the next year developing what Engeström (2015) calls "preliminary *phenomenological insight* [emphasis in original] into the nature of [the activity's] discourse and problems" while "identifying the personal and geographic locus and limits of the activity ... after a relatively extensive 'dwelling' in it" (pp. 253-254). In the spring of 2014, that meant attending capstone team and class meetings and student chapter meetings, taking ethnographic fieldnotes in the form of jottings, and collecting texts including assignment guidelines, INPHEO reporting guidelines, report drafts, and email correspondence, all of which I relied on in drafting open and focused coding memos to delineate the central activity system and identify its primary contradictions (Emerson, Fretz, & Shaw, 2011; Engeström, 2015). During that time, the capstone team completed the deliverables for the

course as well as the first two reports required by INPHEO for project implementation (an alternative analysis report and final design report). Though a number of them continued to work on the third and final report (a pre-implementation report) well into the summer, Andrea and another student chapter member responsible for completing the educational and health and safety documentation didn't follow through, the pre-implementation report was never submitted, and the student chapter missed its window for project implementation that summer.

Starting that summer and continuing into the fall 2014 semester, I used my coding memos to articulate a set of guiding questions for conducting initial semistructured interviews with students, faculty, and professionals involved in the student chapter and capstone course, including Andrea (Yin, 2009). Toward the end of the fall 2014 semester, I also began working more closely with the new student chapter leadership, first on completing the pre-implementation report, and then on a pre-assessment report as they realized they would need to make one more assessment trip to Bolivia to update data and agreements before they could actually construct any wells. I made that trip with them during the summer of 2015, and worked with the team on the requisite post-assessment report in September. Working closely with the student chapter allowed me to experience for myself and through close association with the students, mentors, and partners involved the affordances and challenges of learning to write and using writing to accomplish their goals.

In fall 2015, I continued with my EDR program by conducting object-historical, theory-historical, and actual-empirical analyses of the well project, which together entailed a mapping of the developmental phases of the activity, the contradictions driving each phase, the learning occurring within each phase, and the models (theoretical, organizational, and textual) that participants in the activity develop in an attempt to understand and transform their activity (Engeström, 2015). This required coding my interview transcripts using TAMS Analyzer, analyzing chapter documentation going back to the beginnings of the well project in 2007, and conducting follow-up interviews to fill in any remaining gaps, but I also used those interviews to interrogate some of the assumptions that had informed my research up to that point.

In my analysis, I was beginning to notice just how much EDR didn't account for the role contradictions played in how students developed as writers and as individuals, in particular those students who sought out leadership roles in the student chapter, and I wanted to be sure I wasn't imposing on those students a theoretical framework that didn't match up with their lived experiences. That's when I began recoding my observation notes and interview transcripts from an actor-network theory (ANT) perspective, attending to the controversies, actors, effects, and matters of concern comprising students' accounts, and treating writing as an actor-network symmetrically linked to other actor-networks, as opposed to an instrument or model scaffolding and subordinated within the developmental cycles of activity systems.

# Expansive Developmental Research Findings: Andrea's Independent Study

Expansive developmental research (EDR) suggested Andrea—in observing the chapter's knowledge transfer and breadth/depth of comprehension problems, and in coordinating with the department of civil engineering even before the dissolution of the well project leadership—was developing a goaloriented concept of her actions as chapter president, which in EDR is the beginning step in moving from rote learning of individual tasks to conceptualizing activity as distributed across networks of activity systems and developing problem-solving models at that level. Those models have to come from somewhere, though—what Engeström (2015) calls a springboard, or a kind of improvised solution to the contradictions plaguing an activity system, usually imported from a more culturally advanced activity system. The independent study appeared to be the springboard, and the department of civil engineering and capstone course—with their more established rules (curriculum and outcomes), divisions of labor (student-faculty hierarchy), instruments (upper-division civil engineering coursework relevant to well design and construction), and objects (grade, graduation, job)—the more culturally advanced activity system. Had it been successful, the springboard of Andrea's independent study might have transformed into a model for further partnerships between the student chapter and college of engineering, in turn transforming the activity of each around an increasingly shared object, but that didn't happen, and even by Andrea's account, the independent study was less than successful in achieving its more immediate objectives for her and the well project: "I ended up getting a B ... which I thought was really fair ... because, in order for me to have gotten an A, this [well] project would have been happening this summer."

A number of contradictions that Andrea's independent study might have served as a model for resolving were evident in the capstone team's struggles with writing for both the chapter and the course. Composing the International Nonprofit Humanitarian Engineering Organization's (INPHEO) reporting series required knowledge of the level of technical detail INPHEO required, how much of that detail could be hypothetical given the various contingencies of international humanitarian engineering projects, and how to frame those hypotheticals in a rhetorically effective manner so as to convince the INPHEO parent organization that the chapter had the technical knowledge and practical knowhow to navigate contingencies in real time during the prospective implementation trip. Even with the guidance of the professional mentor, the capstone team struggled with the subtleties of that task, partly because they didn't have experience in navigating contingencies as professional engineers, and those who did nevertheless expressed frustration that providing hypothetical detail to persuade the INPHEO parent organization was very different from providing hypothetical detail to prove to the capstone professor that they had mastered the objectives of the course. The constant shifting back and forth between hypotheticals had the effect of making everything seem more or less hypothetical, leading the capstone team to disinvest in the well project at the end of the semester or shortly thereafter.

Another reason for the capstone team's disinvestment was their perception that the student chapter wasn't doing its part. Andrea recounted the expectations of her independent study as being

to sorta coordinate the meetings and try to get people together and, you know, follow up with [the capstone team] and make sure that they were staying on track. And then what it eventually ended up being was me realizing that, hey, I am an undergrad, and they have much more experience and time management skills than I do. And they are more than capable of doing this work on their own.

This contradiction in the division of labor only exacerbated the capstone team's concerns about the student chapter's lack of investment in completing the well project reports. What the capstone team needed more desperately was help coordinating between the two partnering communities in Bolivia and the anthropology students involved there in the joint health and anthropology project, but historical contradictions made that task difficult for Andrea and the chapter.

It had been over a year and a half since the INPHEO student chapter had last sent a team to Bolivia, and because it had decided to establish itself as a distinct organization from the health and anthropology project in order to better clarify its intentions to its partnering communities, it had discontinued coordination with the anthropology students, neglecting to resolve contradictions toward an increasingly shared object, and leaving the chapter with little logistical or even linguistic means to communicate with community leadership, who spoke Spanish as a second language to their

own language isolate. Manifesting as a contradiction involving communities, rules, and instruments, the language barrier would prove an enormous logistical problem for Andrea, both in reestablishing ties with community partners to provide the capstone team with the information they needed and in composing operation and maintenance and educational documentation in Spanish, two portions of the pre-implementation report that the student chapter was in charge of completing but failed to follow through with by the final deadline for travel to Bolivia during the summer of 2014.

Had the language barrier not been an issue, and had the student chapter maintained stronger ties with the anthropology students, the capstone team might have had more of the information they needed to avoid relying too heavily on hypotheticals, but other problems with documentation hampered their success. The chapter's past reports were scattered across a handful of email and cloud drive accounts, each with its own organizational schema, and in some cases that schema had been reorganized by successive cohorts in such a way as to bury folders deep within folders. Knowledge transfer was one of the key problems Andrea mentioned at our first meeting, and if the knowledge acquired by past cohorts can't be located, it can't transfer.

Each of these contradictions might have served as a rhetorical exigence for a high-impact writing activity that Andrea might have completed in the springboard of her independent study, whether it had been documenting INPHEO genre conventions and disparities between them and the capstone course; proposing a sustainable partnership with the health and anthropology project; designing a sustainable schema for documentation and file sharing within the chapter and between its partners; or developing an orientation program that introduces students to the intercultural and multilingual dimensions of pursuing international humanitarian engineering projects, particularly in the indigenous territory where the chapter's two community partners were located.

By transforming the springboard of the independent study into a model facilitating expansive learning, the chapter and department might have developed not just a goal-oriented concept of their partnership but a motive-oriented concept of the contradictions within and between them and the chapter's project partners. In terms of a high-impact pragmatic way of knowing, rather than allowing Andrea, the chapter, and the department to continue operating separately and thus potentially contributing to further ossification of habits, the independent study could have pressed all parties concerned toward greater plasticity of habit in the development of both disciplinary and interdisciplinary multiliteracies and multilingualism in an international, multicultural context.

But to say the independent study manifested for Andrea as an ossification of habits, or a failure to grow as an individual, would be misleading. EDR presumes that expansive learning requires transformation of entire activity systems toward increasingly shared objects, and that account might illuminate missed opportunities for designing Andrea's independent study as a high-impact writing-intensive activity, but it also glosses over what Andrea did learn about writing, and how participation in the student chapter provided a unique opportunity to do so.

### **Actor-Network Theory Findings: Andrea's Independent Study**

To map Andrea's independent study with actor-network theory (ANT) is to treat the controversies surrounding the completion of the International Nonprofit Humanitarian Engineering Organization's (INPHEO) reporting series less as contradictions Andrea needed to resolve and more as actornetworks that Andrea needed to attune to. Andrea's independent study is a good focal point: One of its primary purposes as Andrea reported it was to provide her an opportunity to immerse herself in the discipline of civil engineering while assisting the capstone team in completing the INPHEO reporting series, an account that treats the independent study and reporting series both as simple instruments Andrea planned to use to achieve her goals, though her experience of each ultimately had a different effect.

Andrea's past and present learning experiences can be interpreted as controversies about what it meant to Andrea to pursue a degree in engineering, and higher education more generally, and those controversies affected her decision to arrange the independent study as well as her encounter with the INPHEO reporting series. As a dual citizen of Sweden and the U.S., Andrea had lived and gone to school in Sweden twice for a total of about six years. There, she reminisced, students immediately began studying in their majors and finished in three years. On the other hand, Andrea bemoaned the pressure at High Desert University (HDU) to graduate within four years without ever having applied what one had learned. Andrea had decided to pursue chemical engineering while completing a NASA internship immediately after graduating high school, but mostly because the internship was so hands on; Andrea excelled in lab work, she said, but struggled to learn in lecture settings.

It wasn't as if applied learning opportunities didn't exist in the college of engineering. Andrea observed faculty often invited undergraduate students to work on their grant-funded research projects, but INPHEO wasn't one of them. Faculty who had in the past been more active in the student chapter had stepped back to focus on other responsibilities when in the year before Andrea's presidency the chapter leadership had struggled to make progress on the well project. Andrea had been reticent to reach out to those faculty for help because she didn't feel she had a clear enough sense of the INPHEO reporting series to know what she needed from them. She also didn't have any personal relationships with the faculty who taught her classes, which she said were mostly impersonal lecture-style classes with curricula and tests created by the departments.

Andrea seemed to perceive faculty and coursework as actors in what Latour (1987) might call the college of engineering's center of calculation, a site where people, places, and texts accumulate, some stabilizing to create a center, and others mobilizing to extend the center's reach. Andrea observed this particular center of calculation appeared to have formed around an unnecessarily narrow definition of what it meant to become an engineer—a definition operating as what Latour (1987, 2005) calls a black box. Black boxes can come in the form of facts or artifacts, but should ultimately be interpreted as matters of concern that are only as stable as their networks of associations. Scholars such as Bazerman (1994, 1999), Prior (1997), and Russell (1997a) first employed the term in writing studies in a manner consistent with Bakhtin's (1981) explanation of the chronotope. However, as Latour (1987, 2005) describes it, a black box is not a dialogical relationship between representation and reality but an automaton that gains its own agency through a center of calculation that stabilizes it against dispute and extends its reach by enrolling other actors. Andrea didn't claim to have access to what was inside this black box, but she saw how it posed as a matter of fact by enlisting a center of calculation comprised of students, faculty, and staff, coursework, internships, and research assistantships, and she expressed frustration at how that configuration left little room for students to engage in the complex negotiating across cultural, linguistic, disciplinary, and geographical divides that the well project required.

When Andrea was first introduced to the INPHEO reporting series as the newly elected chapter president, she wasn't too intimidated. Referring back to her NASA internship, she recounted, "And so I made this poor assumption in that...I was like, oh well, I can do this because I did that. It's NASA. Like, this isn't rocket science. That was, you know?" Over the course of the fall 2013 semester, however, Andrea developed a complicated understanding of the task of completing the reporting series as both a heavily rhetorical and deeply technical endeavor. When I asked her what her greatest barriers were to completing the reporting series that fall, Andrea replied,

Um, truthfully, my communication skills. My ability to get like, inspire people to get their work done and be able to follow up with them, and then also having, you know, earning their respect.... You have to have faith in your leader to be able to complete work. And I felt like the initial group that we had, um, felt, "You don't know what you're doing." And as time progressed, I realized that, like, I actually don't know what I'm doing, and I need, I need everybody as a team to work together with me on this.

Andrea recognized her lack of technical knowledge affected her ethos, but that she could overcome that obstacle by more skillfully enlisting others in the project.

Andrea's creation of the independent study in conjunction with the chapter-capstone partnership was an impressive illustration of her rhetorical development in that through these arrangements she aimed to enlist actors from the college of engineering's center of calculation in the task of completing the INPHEO reporting series required to implement the well project. At the time, Andrea still had it in mind that the independent study would serve as an instrument enabling her to better gain the technical knowledge she thought she needed to be more involved in the reporting process, open up the black box of what it meant to become an engineer, and gain the disciplinary ethos that would render her a more rhetorically effective chapter president. Even before the end of the spring 2014 semester, though, Andrea was beginning to realize that not everything would turn out as planned:

I realized when I was sitting actually that one day I had been discharged from the [student health center], after having an IV in my arm because I had a horrible migraine, and I'm like, heavily medicated and trying to figure out what is going on in this meeting, but everyone is discussing technical material that I don't comprehend right now, and I look back, and I'm like, oh, I made this happen.

Andrea's experience as student chapter president ended with her leaving the student chapter and college of engineering, and though the independent study itself failed to gain Andrea the agency she had hoped as an engineer and chapter president, she learned something potentially even more valuable from her efforts to enlist various actors in the process of completing the INPHEO reporting series:

My role really shifted because at first I was like, okay, I'm gonna be dealing with the engineering side of it, and now I'm like, no, I want to be dealing with the logistics/communication side of it.... I like to plan things. I like to organize things, communicate with people, and build relationships with people. I've never had any formal training in that.... And so, um, this project, I mean, just my involvement with [INPHEO] is a huge reason I had a major change [to intercultural communication]. Like I changed my major based on a lot of the things I learned in this project...like the fact that I don't want to be writing technical reports.... I realized that I would much rather be involved with the people than my laptop..... If I would have not been in [INPHEO]—and this was what I thought was going to keep me going in engineering, right? When we spoke the first time, I was like, you know, I have to have the real life application to what I'm studying, or else it's irrelevant. And it turned out to be, yeah, I have to have the real life application in order to realize, yeah, this is not what I want to do.

Andrea spent three years trying to open up the black box at the center of HDU's college of engineering, in large part trying to get back to that initial feeling her NASA internship had given her. Her encounter with the controversy between rhetorical and technical ability at the heart of the INPHEO reporting

series helped her discover that the feeling she was chasing was more connected to the communicative aspects of applied learning situations than it was their disciplinary focus, and her appreciation for what the situation of the INPHEO reporting series demanded led her toward her new major in intercultural communication. ANT suggests that the most important lesson Andrea learned involved not a resolution of contradiction so much as an attunement to how controversies in complex writing situations operate as rhetorical exigences that enlist actors, an attunement that is an enlistment of and in controversies themselves. Exigence thought of as attunement to controversy may be closer in part to Carolyn R. Miller's (1984) previously mentioned definition of exigence as internalized social motive, but with the added stipulation that there is no resolution, so much as—to paraphrase Thomas Rickert (2013)—"a fundamental entanglement" (p. 8).

Andrea's change of majors, resulting from her attunement to controversies within the writing situation of the INPHEO reporting series, fits the profile of a pragmatic way of knowing in that Andrea did exercise some plasticity in choosing from among a range of habits of perception. As much as her use of the independent study to enlist actors in the college of engineering's center of calculation evidences that emerging attunement, the independent study itself apparently did little to facilitate it. Instead, it seemed the student chapter as an autonomous unit provided a more effective platform from which Andrea could attune to various controversies, reflexively interpreting, deflecting, and selecting from the outside forces she was surrounded by as an engineering student and INPHEO student chapter president.

# **Conclusion: Supporting Writing in Student Organizations as a High-Impact Practice**

Andrea's story serves as just one example of how student organizations, particularly those that align with the four essential learning outcomes for a twenty-first century college education (LEAP, 2007), are sites where students can cultivate a pragmatic way of knowing—with or without our help— developing the plasticity of habits of perception that will allow them to navigate through college and beyond, selecting and deflecting forces from within and without the institution in search of an academic, professional, or civic community that they can call their own. At the same time, Andrea's story provides support for those who call on institutions of postsecondary education, and the field of writing across the curriculum and in the disciplines (WAC/WID) in particular, to do more to trouble learning paradigms that employ writing only in service to particular disciplines, only in traditional learning environments, and only in particular languages, or in service to an overly narrow or generalized idea of who are students are, where they're going, and what they need to get there.

Expansive developmental research (EDR) and actor-network theory (ANT) are pragmatic ways of knowing that can in turn help us cultivate writing as a locally situated, high-impact pragmatic way of knowing, re-envisioning contradictions and controversies currently impeding learning as rhetorical exigences that can attune us to high-impact writing-intensive partnerships between student organizations and academic programs and departments. Whereas EDR lends itself to integrating curricular and cocurricular writing activities by resolving the contradictions within and between them, ANT can help uncover opportunities for students to attune to controversies in writing situations, while reminding us to provide students room in the curriculum to interrogate through writing their current alliances and to form newer, more productive ones as they see fit.

Currently, I'm using my findings from Andrea's independent study and the larger case study of the student chapter to work with the current student chapter leadership on a proposal for a course cross-listed between the college of engineering and other more interdisciplinary academic units, such as HDU's college of undergraduate student success, to be taught in part by the student chapter

leadership themselves, as a means of better preparing new chapter members for the writingintensive demands of working on INPHEO projects, but also as a means of encouraging students to explore their disciplinary, cultural, and linguistic identities, which is, after all, why students gravitate to a student organization like the INPHEO student chapter in the first place. My hope is that the moment is kairotic for such a proposal, as funding is coming available through HDU's office of the provost for courses that bridge the curriculum and cocurriculum in alignment with outcomes for a new interdisciplinary minor that look a lot like the four essential learning outcomes for a twenty-first century college education (LEAP, 2007).

Rather than inculcating students in the methodological intricacies of EDR and ANT, I want the course to support them in applying the basic principles of identifying contradictions and controversies as high-impact, pragmatic ways of attuning to complex writing situations—tools for identifying rhetorical opportunities and strategizing rhetorical action—that can help them reshape postsecondary education to better match their needs and goals as individual learners and as citizens in a deliberative democracy. On a larger scale, I hope that these efforts to study and support writing as a high-impact practice (HIP) in the INPHEO student chapter will serve as a model for how WAC/WID as a field might explore the terrain of writing in student organizations, with students as co-authors of the bridges we build between the curriculum and cocurriculum, an arrangement that is nothing if not a writing-intensive HIP, and one in which we should think of the students themselves as first author.

When I asked Andrea for recommendations on how HDU faculty and administration might better support the work of the INPHEO student chapter, this is what she told me:

I wish that they had a class where the engineering students, the English majors, communication students regardless of major could come together and have this be a class.... Exact same thing we're doing now, but do it better with more structure and more credit.... Have an engineering professor with an architecture TA with an English TA, and so not just looking at the professors, but like having a support system. I guess the term I'm looking for is cross-curriculum? Like having it, having different curriculums intersect.

"Are you just making that up now?" I asked her.

"Yeah," Andrea replied. "But that's, I would like to see that."

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