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Sean McCarthy
James Madison University, mccartsr@jmu.edu

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Designing an Engaged Swarm: Toward a *Techne* for Multi-Class, Interdisciplinary Collaborations with Nonprofit Partners

Seán McCarthy

This essay proposes a model of university-community partnership called "an engaged swarm" that mobilizes networks of students from across classes and disciplines to work with off-campus partners such as nonprofits. Based on theories that translate the distributed, adaptive, and flexible activity of actors in biological systems to organizational networks that include humans, swarms are well-suited to providing a diverse range of responses to complex problems. As such, swarming tactics can be useful when applied to nonprofit organizations that do not have the capacity or time to redesign their communications strategy across print, web, and social media platforms. Employing a case study of three classes that collectively produced a wide range of multimedia artifacts for a nonprofit in a single semester, the essay illustrates how a swarm embedded within a university operates, and concludes by providing a schema for modifying swarms to future partnerships.

Keywords: nonprofit communications, university-community partnerships, organizational networks, community engagement

The ability to adapt is the one quality that should govern nonprofit organizations today. The marketplace is crowded, the recent global economic downturn has placed a premium on resources, and the problems that nonprofits aim to address are becoming ever more complex. As a result, metrics of success such as organizational growth and record-breaking funding drives are being eclipsed by calls from funding agencies to *network better* and *do more with less*. As with other sectors, communication technologies, particularly social media, are lionized as a means for nonprofits to respond to these calls to become leaner, smarter, and more adaptive. These technologies provide opportunities for nonprofits to build relationships and share knowledge, but as many experts in the area advise, it's the capacity for an organization to innovate that will determine its survival (Kanter and Fine 2010; Neff and Moss 2011).

How partnerships between classes and nonprofits can promote innovation is the central question that drives this essay. As a case study, I explore an experimental engagement project I participated in that networked three classes that, borrowing a term from reality TV design shows, performed a complete communications

makeover for a local nonprofit. In fifteen weeks, we collectively and collaboratively produced a new website and branding scheme, seven video public service announcements, two social media campaigns, and a variety of graphic and interactive content.

It probably comes as no surprise that not all of these projects were of consistent quality. More interesting is that inconsistency wasn't necessarily a liability. The variety of quickly-developed projects provided our nonprofit with a broad sense of what a revised communications strategy might look like and a range of deliverables that they could choose from and later improve upon to make transformation happen. The project also allowed those of us on the university side of the partnership to experience what an intensive, cross-disciplinary collaboration might be and why it's important. Just as nonprofits are called upon to constantly innovate and do more with less, university-community partnerships also need to revise how and to what ends they respond to nonprofits' needs.

In this essay, I propose a model of university-community partnerships called an *engaged swarm*. Based on theories that translate the distributed, adaptive, and flexible activity of actors in biological systems to organizational networks that include humans, swarms are well-suited to provide a diverse range of responses to complex problems. Furthermore, swarms need to be organized in such a way that they can work within more stratified organizations such as a bureaucracy. In what follows, I briefly describe the particular challenges that face nonprofits and outline how swarms function. Using the above case study as a backdrop, I then illustrate how a swarm embedded within a university operates, and I conclude by articulating a *techne* for an engaged swarm, a pedagogical approach to adapting swarm-like tactics to class-based engagement projects.

Background: The Future of Nonprofits

Nonprofit consultants Beth Kanter and Allison H. Fine suggest that nonprofits have turned away from social issues they were formed to address and toward metrics of success required of their funding agencies that privilege staff and fiscal growth. They write: "The incessant pressure on professional nonprofit organizations to grow financially and programmatically forced organizations to consider everyone else competitors—a stumbling block when you're trying to address complex, difficult social problems" (12). The increasingly crowded nonprofit marketplace and the 2008 economic collapse have foregrounded organizations' lack of responsiveness to change, forcing nonprofits to rethink their strategy for sustainability. Nonprofits, Kanter and Fine propose, need to make their organizations leaner, to collaborate more effectively with other organizations in solving problems, and to increase their support base.

Studies show that the savvy use of social media is one way organizations can achieve these aims. Social networking platforms such as Twitter and Facebook, blogs, and instant messaging systems have been used widely within organizations as tools for building social capital by providing access to new people and knowledge, sharing

that knowledge, and building relationships (Hou and Lampe 3108). However, many nonprofit organizations are slow to adapt. Nonprofit consultants David J. Neff and Randal C. Moss explain that the organizations are so focused on the day-to-day demands of their mission that they can easily ignore issues that don't fit into that work (xii). Furthermore, most nonprofits, particularly smaller ones, have limited resources to adopt new strategies. To develop a workable social media strategy, nonprofits need to be prepared to design, publish, and manage timely and targeted content across multiple networks; respond quickly to the ensuing "likes," shares, comments, and queries; and use social media analytics to measure impact and refine their strategy. As such, crafting a successful social media presence requires much more effort than simply signing up to Facebook or Twitter and posting sporadically. Youyang Hou and Cliff Lampe argue that designing a workable social media strategy for a nonprofit must address "organizational issues such as the diversity and fluidity of workforce, constraints in time, funding, workforce, and expertise, as well as the need to mitigate organizational politics inconsistent with small organizations' public engagement goals" (3115). To successfully embrace the potential of social media requires examining and refining the core of an organization's mission and how it operates.

The idea that a new approach to content has implications for how an organization functions is nothing new to technical communication scholars (Hart-Davidson et al. 11). It is equally important for engaged practitioners to take into consideration how challenges faced by community organizations also affect the way writing scholars design university-community partnerships. As Michelle Comstock argues, "in order to sustain such collaborations and university-community networks, literacy workers and writing programs must challenge static forms of participation and expertise, as well as monolithic notions of literacy, and become more responsive to concrete literacy needs within our communities" (45). Scholars have long recognized that change is the one constant that guides community-based writing initiatives. The range of writing projects referenced in the recently published "CCCC Statement on Community-Engaged Projects in Rhetoric and Composition" stands as testament to the growing diversity of theoretical and methodological approaches to partnerships in rhetoric and composition studies (National Council of Teachers of English 2016).

From these partnerships, key models of best practices have emerged to guide and shape future work. Linda Flower and her colleagues with the Community Literacy Center in Pittsburgh created "local publics" by pairing community members with students to create texts about community problems that were then constructively discussed in public think tanks (Higgins, Long, and Flower 26). In her work with the Cherokee Nation, Ellen Cushman honed "a praxis of new media" by designing long-term engagement that included student projects such as a webtext on Cherokee Nation history. Jeffrey Grabill turns his attention to the inventional potential of digital interfaces "to make infrastructures with people in communities that support their ability to invent and write for community change" (90). The Grassroots mapping tool described in his Harbor case study enabled ordinary people to create visual

asset maps of their local communities, providing the possibility for creating new perspectives on facilitating community change.

Lisa Dush observes that all of these models were carefully built and sustained over years of collaboration and capacity building (14). In contrast, she proposes a model of partnership that can be achieved within a single semester, where "students teach staff and/or their constituents how to produce new media texts and to use those texts for rhetorical action" (11). For the model I'm trying to build here, I'm particularly interested in the inventional capacities of Grabill's model, and the constrained time frame and focus on training of Dush's model. Implementing a creative social media strategy demands designing and repurposing content that is appropriate for a variety of platforms and devices, which requires significant powers of invention. Social media is also heavily networked, meaning that, ideally, there is consistency of approach across multiple platforms at the same time, making a gradual approach to building strategy less effective than system-wide implementation.

Aligning and expanding on the approaches of Grabill and Dush, I propose a model of university-community partnership where a network of students collaborates with a nonprofit to assess their social media needs, and then quickly produces a wide range of multimodal content designed for circulation across multiple platforms that shows how those needs might be addressed. The goal of this model is to present a partnering organization with a variety of content examples, or prototypes, along with supporting documentation about how to produce them. Together, these deliverables provide a more or less comprehensive approach to creating a viable social media strategy—what Grabill might call an "infrastructure of invention"—that provides our partner with a roadmap for moving forward.

Swarming Engagement

For anyone who has worked with students on an intensive engagement project with a looming deadline, the energy of a busy swarm of bees will no doubt resonate metaphorically. Although it's odd to think of a collective teetering on the edge of chaos being able to focus on a single goal—let alone accomplish it, swarms present a highly successful way of accomplishing complex projects and have consequently been a topic of intense study by scientists and organizational theorists. Consider how bees or wolves are able to loosely coordinate efforts toward a common goal, such as collecting pollen or capturing prey. As collectives, they are dispersed, yet organized, and they are quick to adapt to changing conditions. Given these traits, it's not surprising that swarming organizational tactics has been picked up by war strategists. In this context, Sean J.A. Edwards defines swarming thus:

> Swarming occurs when several units conduct a convergent attack on a target from multiple axes. Attacks can be either long range or short range. Swarming can be pre-planned or opportunistic. It usually involves "pulsing" where units converge rapidly on a target, attack and then re-disperse. (2)

Swarming has also been applied to less violent ends, including the mobilization of political protest movements using the internet and social media (Rheingold 2003; Haywood Rolling Jr. 2013) and even the formation of political parties (Falkvinge 2013).

Common to these examples is that they use swarming techniques as a tool of innovation. The loose yet coordinated qualities of a swarm invite interdisciplinary perspectives, and their energy and speed allow swarms to quickly develop and iterate ideas. As such, they operate quite differently than bureaucracies, which tend to be more stratified, invested in conserving energy, and consequently slow to commit valuable resources to the kind of risky endeavors innovation demands.

Networked organizations such as swarms and bureaucracies are not necessarily at odds with each other, however. As the above examples show, a swarm can facilitate a social protest movement *and* structure a political party. Swarms can thus be adapted and even nested within less flexible organizational structures. Indeed, the futurist Alvin Toffler developed an entire theory based around this idea, allowing him to coin the term *adhocracy*, which joins the particularity of purpose connoted by the adjective and adverb ad hoc to the enduring permanence associated with the noun bureaucracy. To briefly contextualize Toffler's theory, an adhocracy occurs when workers with different expertise and who are distributed across a bureaucracy abandon their traditional roles and cut across the boundaries that structure the organization. Freed from these constraints, they focus exclusively on the completion of a specific project, dispersing back to their own corners of the organization upon its successful conclusion. An adhocracy, in effect, is a nested swarm, and the idea has since been developed and adapted to other ends such as promoting organizational change and theorizing changing practices in knowledge work (Mintzberg 1985; Spinuzzi 2015).

If Toffler had been in Harrisonburg, VA to witness the project I was involved in during the Spring 2014 semester, he would have clearly seen what I couldn't appreciate at the time: the emergence of an adhocracy, or a project-based, networked swarm within the bureaucratic structures of the university. I call this an "engaged swarm"—a term of my own devising that I use to describe an adhocracy in university-community partnerships. To my ear, a swarm has more immediacy and richer metaphoric resonance for scholars and students in our field than Toffler's somewhat technical and perhaps obscure portmanteau. I believe that modifying the swarm with the "engaged" adjective sufficiently signals to practitioners in our field the interplay between the emergent properties of the swarm and the institutional infrastructures that govern universities and the organizations with which they collaborate. An engaged swarm is a useful contribution to the rich set of models developed by writing scholars to shape projects with off-campus partners.

The Swarm in Action

Our collaborating nonprofit offers services such as counseling to at-risk populations ranging in age from young children to adults in our ethnically and culturally diverse rural city and the region that surrounds it. My students and I met with the nonprofit's officers early in the semester, and it quickly became clear that the organization's communication needs were varied and complex. Their website design needed to be refreshed and better organized, the text-heavy pages lacked graphic and interactive content, and the logo and branding needed revision. The organization wanted to create a more sophisticated social media presence, but they also needed to expand its use of print materials, because not all of the organization's potential client base had regular access to the web. Although this was just a wish list, my students felt daunted, as all of these possible projects were interdependent to one degree or another. A new branding scheme would have to be consistently implemented everywhere; similarly, any new content on the website would need to work seamlessly across print and social media publishing platforms.

Prior to this meeting, I had conversations with two media arts professors who were willing to add to the work done by my class by creating video public service announcements and technical website work with their own concurrently running classes. Our ability to accomplish this was premised on our ability to operate as a swarm. As Eric Bonabeau and colleagues articulate, three of the key dynamics that define a successful networked organization such as a swarm are *decentralization*, *adaptivity*, and *flexibility* (Bonabeau, Dorigo, and Theraulaz 8). To be *decentralized* means that no single node governs the network, a way of operating that my class embraced early in the semester. After our initial meeting with our nonprofit, students self-selected into six teams that focused on: web design and structure; social media strategy; branding; interactive and graphic content such as video and infographics; print materials such as a redesigned brochure and posters; and social media campaigns. After spring break, they were joined by an entire class of video production students, who divided into seven teams that resulted in six video public service announcements and a promotional clip to promote the collaboration that could be screened at the end of the semester in a public showcase. Finally, a team of five students from a capstone seminar in web design joined our growing swarm during the last month of the semester, during which time they implemented the website restructuring and redesign ideas that students in my class had researched and negotiated with the nonprofit. They did this by cloning the nonprofit's website, so that our partner could test the new site's various features without altering or taking offline their already existing site.

The hand-off of the website project to the web design team represents *adaptivity*, Bonabeau et al's second key element of a swarm. Swarms harness the power of the collective so that if particular members are unable to finish a particular task it can be given to others to complete. The "Writing for Nonprofits" students did not have the requisite skills to finish the project, and therefore passed it to the web

design class, who, by the latter stages of the semester, had gained the skills to finish the job. Other instances of adaptive behavior could be seen within the "Writing for Nonprofits" class. The team that was involved in interactive and graphic content decided to split in the middle of the semester to better focus on different types of content development. One turned their attention to the development of infographics, which, in turn, were shared with the group working on print materials, while the other group experimented with the use of comic generators and animated characters to appeal to the nonprofit's younger audiences.

Soon after spring break, the team that explored how to rebrand the nonprofit created a new logo and a set of fonts and colors that the nonprofit decided to put into action across the entire organization. This team then consulted with all of the other groups about aligning their work with this new scheme and oversaw the creation of a comprehensive design guide that included all the pertinent information, instructions, passwords, and other technical information for all of the projects. To accomplish this quickly, this team initiated a Google Doc, collaboratively written by the whole class, adding screenshots, images, and other information from our class wiki, where all the files and process documentation for the entire class were published. Their choice to do this represents *flexibility*, Bonabeau et al's third major dynamic of a swarm. The distributed, adaptive qualities of a swarm demand that collaborators require the ability to choose when and how they complete their tasks. Online spaces such as the wiki and Google Docs encouraged students to work remotely, freeing up classroom time and cutting down on difficult-to-schedule face-to-face meetings.

Conclusion: Toward a *techne* for an engaged swarm

Although the above description gives a sense of how students and faculty orchestrated their activities in a swarm-like fashion, it doesn't provide a clear idea about how such a structure might be formalized into a model that could be replicated or shaped to different purposes. Cast in the terms of this essay, the organizational network of the swarm must be adapted to the institutional networks within which it is embedded, what I am calling an engaged swarm. To do so, I conclude this essay by providing a *techne*, or a set of transferable guides and strategies (Grabill 84) to create the conditions for an engaged swarm that can be creatively applied, revised, or extended by others.

1. Focus on and articulate the value of prototyping.

Nonprofits need to think beyond specific deliverables toward a broader, viable media strategy. Consequently, effort spent by collaborating classes on focused and refined products might be less useful than *prototyping* a variety of content that the nonprofit can assess and later repurpose to suit their available resources. Analogous to the drafting stage in writing, prototyping is a stage of the design process through which

designers create a quick, rough representation of an idea that is later refined. For an engaged swarm, however, prototyping can be an end in itself. Although projects such as the branding scheme and video public service announcements were used immediately by our nonprofit partner, many of the projects developed by our our engaged swarm, such as the cloned website, are better considered as prototypes with the potential for further development. Detailed design documentation accompanied these projects, allowing off-campus partners to further refine or even adapt the ideas to new purposes. For example, one of the student teams in the "Writing for Nonprofits" class used easily mastered and inexpensive software to create comic strips and animated characters for our organization's younger clients. The nonprofit was intrigued with the prototypes and has since tested these tools as a way to help young clients to articulate traumatic experiences.

Articulating the value of prototyping up front in the collaborative relationship can release students from the pressure of having to deliver polished content that they do not yet have the skills to create. It also provides a way for the partnering nonprofit to find value in student work even if it is not yet up to publishable standards. That is, it may situate a culture of prototyping as central to the ethos of the engaged swarm. Design theorists Elizabeth Gerber and Maureen Carroll argue that prototyping has psychological benefits because it allows us to "reframe failure as an opportunity for learning, fostering a sense of forward progress, and strengthening beliefs about creative ability" (81). Creative ability and learning through failure are essential to the ethos and practice of an engaged swarm and the infrastructure of invention it supports.

2. Structure the semester according to phases of production.

Distributed activity increases the likelihood of producing a wide range of prototypes and polished deliverables. From a pedagogical perspective, wrangling distributed workflows over an extended period of time makes is difficult because everyone is working on different things, at different speeds, and with different degrees of success. A key intervention is to structure the flow of the semester to support this kind of work. Planning the semester according to the phases of production rather than readings or themes can align distributed work such that no matter what students are working on, they are at least moving to a common rhythm. Appealing to design thinking and process can help to focus the swarm on this production-oriented approach. "Drawing on *design* in writing studies," James Purdy writes, "reinforces a focus on meaning making rather than mastery of a fixed body of knowledge. Through the lens of design, writing studies is not defined by what we know but by the ways in which we create" (634).

In the "Writing for Nonprofits" class, I gave shape to the distributed network of the engaged swarm by organizing the semester according to design process, a workflow that consists of a varying number of recursive steps, depending on the theory employed (Purdy 625). I synthesized aspects of different models to create four categories—research, prototyping, testing, and refining—which determined the

activity associated with four segments of the semester. As a result, all the teams in the class knew where they were on the timeline, regardless of the diversity of projects or the structure of the teams. These markers of time and activity were also useful in articulating the flow of the semester to our collaborators. We met with our client at the end of the research phase to present our ideas and get feedback on how best to proceed. We met again at the eight-week mark, after the initial prototyping phase, which gave our client the opportunity to look at the many rough ideas and decide which to encourage.

3. Use portfolio assessment to encourage adaptive behavior.

The video production and web design classes joined our engaged swarm when the "Writing for Nonprofits" class was refining its projects in the third phase of the semester. This allowed the team focused on web design to hand off implementation of their design to the website, and for the social media campaigns team to collaborate on a video public service announcement. Swarms thrive on this kind of adaptive behavior, but it goes against the grain of product-driven assessment. How can an instructor fairly assess students who are swarming around projects that may or may not move beyond a prototyping stage, and who are working in and across teams that have little commonality or consistency other than our collaborating partner and the design-driven structure of the semester?

A key consideration for an instructor responsible for grading students participating in an engaged swarm is to to adopt a process-driven assessment model that allows each student to gather evidence of their work and analyze what they learned throughout the course. A survey of the multiple approaches to portfolios in our field is beyond the scope of this essay, but I can suggest that "The Learning Record," an evidence-based portfolio model adapted to higher education by Margaret Syverson, suits an engaged swarm very well. It provides a highly versatile system through which students must gather diverse forms of evidence such as drafts, process documentation, meeting notes, and so on. Regular reflection activities are built into its architecture by asking students to regularly post autoethnographic observations. Focused objectives serve as criteria by which students can provide evidence for and interpret what they learned throughout the semester. Finally, the structure of The Learning Record lends well to interdisciplinary and public engagement; it is designed such that anyone can read and interpret a student's portfolio, regardless of their knowledge or expertise (Syverson 198). This model of evidence-based assessment therefore not only captures the emergent activity of the students, but is also accessible to others outside the class to read, should they wish to do so.

4. Promote the engaged swarm by hosting a pubic showcase.

Swarms dissipate upon completion of their objective, be it the destruction of a target in warfare or the performance of a protest that uses social media to gather

participants in a city square. The model of the swarm therefore suits higher education well; students and instructors gather for a semester and disband upon its completion. For an engaged swarm, however, the intensity of the activity and the volume of what is produced means that many of its participants may only have a hazy idea of the entire output of the collective. The distributed, flexible, and adaptive qualities of the swarm make its larger impact difficult to appreciate, particularly from within.

A way of solving this problem is to create a public showcase to present the semester's work. At the conclusion of our project, the participating classes and our nonprofit partner hosted a public event in our city. The program of events included presentations of students' work and a panel that promoted the services of the nonprofit. Over one hundred people attended the event, which was covered by the local press and widely publicized on campus. It presented a welcome opportunity for the nonprofit to raise awareness and for the students to appreciate and learn from their own achievements.

5. Breathe, Believe, Commit.

Implementing and refining existing models of university-community partnerships—and developing new infrastructures as new exigencies arise—is intensive and difficult work. It is also work that is creative, energizing, and sometimes even transformative. Above all, it is deeply necessary and should be communicated as such to our home departments and universities. A public showcase and the project it represents demonstrate impact and value to both our community partners and our students. It should be articulated as research, teaching, *and* service in tenure and promotion files. Engaged infrastructures don't just support new knowledge, they are part of its very fabric, and their composition demands as much of our energy, care, and powers of invention as we can muster.

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Author Bio

Seán McCarthy is an assistant professor in the School of Writing, Rhetoric and Technical Communication at James Madison University (JMU). His teaching and research are situated at the intersection of community engagement and digital literacy studies, and he is particularly interested in how writing and digital media production inform and transform transdisciplinary university-community partnerships in local, national, and international contexts. He has served as a faculty associate with JMU's Center for Instructional Technology and is currently a university Entrepreneurship Faculty Fellow. McCarthy also co-designed and co-teaches an annual institute for faculty in digital humanities pedagogy at JMU and is involved in several university-wide initiatives that promote community and civic engagement.