

# Service Learning and Undergraduate Research in Technical Communication Programs

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**Abstract.** Service learning, as an instructional approach, was introduced in technical communication literature in 1997. Since then, service learning has been touted for its client-based learning affordances, but few scholars have noted its value as a means to teach research methodology and reporting, especially in undergraduate programs. This article's purpose, therefore, is to showcase a relatively unremarked aspect of service learning: the integral role that research plays in it. To support this claim, the article reviews service learning literature in professional and technical communication and examines several case studies of current technical communication courses across the United States. Through these examples, the article demonstrates how service learning experiences build undergraduate students' research and communication skills while simultaneously providing valuable services to community organizations in need. The article concludes with strategies for integrating service learning and instruction in research methods into undergraduate technical communication programs.

**Keywords:** service learning, undergraduate technical communication programs, pedagogy, research

**S**ervice learning, as a programmatic instructional approach, was introduced in technical communication literature in 1997. Since then, its values and goals have been well documented in articles that range from discussions of integrated technical communication/service learning writing assignments to advice for avoiding the pitfalls that can accompany these assignments. The continued viability of service learning as an undergraduate instructional approach was the focus of David Sapp's plenary address at the 2004 annual conference of the Council for Programs in Technical and Scientific Communication, and its usefulness has been considered in many professional conference presentations, including the

Association for Teachers of Technical Writing and the Association of Business Communication conferences. The Allyn and Bacon Series in Technical Communication included a textbook of the subject, Bowdon and Scott's *Service-Learning in Technical and Professional Communication*. Because of these resources and others like them, service learning has become a respected and frequently cited means for providing students with client- and/or community-based situated learning.

Although service learning has frequently been touted for its client- and community-based learning affordances, few authors have noted its value as a means to teach research. The omission is particularly noteworthy since almost every article and presentation about service learning in technical communication mentions student research as part of the instructional process. This article's purposes, therefore, are to showcase this relatively unremarked aspect of service learning—the integral role that research plays in it—and to encourage instructors and program directors to consider service learning as a viable means of teaching research methods in undergraduate technical communication programs.

## **Benefiting Students, Communities, and Technical Communication Programs**

Service learning, according to Huckin (1997), is “experiential education in which students apply their academic skills to the needs of local non-profit agencies” (p. 50). Similarly, Therese Judge (2006) notes that service learning projects are ideal for providing “learning experiences for the volunteers [students] and [providing] some tangible good to the organization” (p. 190). As an instructional approach, service learning addresses several potential weaknesses in technical communication pedagogy. It provides students with opportunities to write for actual clients (or community partners) who need their assistance, yet this writing takes place with the assistance and supervision found within a university setting. It can broaden students' understanding of the locales of technical communication by asking them to consider workplaces other than corporations as potential sites for technical communication practice. Service learning can also provide students with a deeper understanding of their communities, the possible roles they may play in their communities, and the impact of their services within those roles. Consequently, service learning not only benefits the students who engage in it, but it also benefits the communities that it serves.

Service learning affords teachers and their students opportunities to practice actual workplace writing while still in a classroom setting. As such, service learning can resolve the problem of *pseudotransactionality* in

technical communication instruction. According to Spinuzzi (1996/2004), *pseudotransactionality*—writing to please the teacher or complete a classroom assignment rather than writing to address an actual communication problem—“is a particular problem for professional writing instructors” (p. 338) because students may confuse solutions for classroom pseudotransactional assignments with actual workplace writing solutions. For example, students may inaccurately assume that a teacher’s preferred design for memo heading is the only way to write a memo heading. Rather than investigate the specific conventions, audiences, and purposes for memos in the workplaces in which they find themselves, they default to their classroom conventions and genres and, consequently, produce rhetorically ineffective documents. In contrast, service learning writing is client-specific, rather than teacher-specific, and it allows groups of students to discuss differences from one project or workplace to another. As Kastman Breuch (2001) explains, “Client projects differ from traditional class assignments because they require writing that is addressed to an audience other than the teacher, and this rhetorical situation is often difficult for students to fully grasp... Client projects require that students complete some project for the client. Thus these projects require that students identify, consider, and understand client expectations and motivations for a project” (p. 194-195).

Service learning can also broaden and deepen the skill sets of technical communication undergraduate students. Given the field’s perceived practical focus, instructors sometimes find themselves privileging writing skills that lead to immediate job success over more subtle, and thus more difficult to teach, interpersonal and critical skills. Criticizing the more narrowly focused career-training approach, Scott (2004) argues that technical communication courses are often driven by “hyperpragmatism”—a pedagogical stance that emphasizes “ensuring students’ professional success” and “moves past critique, overlooks power relations and textual circulation, and narrowly positions students and their praxis” (p. 289). This approach may give students the tools and skills to do a job, he argues, but it does not give them a broader understanding of how to modify, adapt, or change tools given specific circumstances or how, given the tools and skills they possess, to position themselves in relation to others with whom or for whom they work. This tendency to emphasize practical job skills over critical and cultural examination privileges writing that benefits large corporations, argues Grabill (2000), or, as Sapp and Crabtree (2002) note, it privileges “the for-profit sector of the economy” (p. 416) without examining the ideologic and cultural practices that occur in such settings. From a more theoretical perspective, Mara (2006) describes this diametrical

tension as the “long-standing technical communication and rhetorical division between the Aristotelian notions of *praxis* and *techne*,” suggesting that this conflict results in a “question of how the technical communication instructor, and ultimately the future technical communicator, can both demonstrate technical skills and practice those skills ethically” (p. 219). A resolution to this dilemma, these authors agree, can be found in service learning, which immerses students in situations where issues of race, class, and culture complicate interactions and communication and where human needs rather than economic expediency drive goals. In effect, when technical communication students engage in service learning, their work is more situated within the humanities than it is when study focuses solely on the instrumental skills of doing that work.

Moving beyond the classroom and into the community for instruction may even provide long-term benefits that improve students’ lives as well as their communities. Faber (2002) warns that current lifestyles are causing a “retreat from local spaces” and thus “losing the important social connections people rely on in times of family stress, economic downturn, employment problems, health crises, and other social problems” (p. 176). Service learning is a measure he recommends for higher education to strengthen local connections and support communities. Such moves, he argues, will require university professors and instructors to consider new forms of active research and student involvement in local causes: “By learning to read and write change—meaning, how to understand, interpret, and realign an organization’s narratives and images—students, practitioners, and advocates of change can gain insights into power, social structures, individual agency, community agency, social change, and civic leadership” (Faber, 2002, p. 179). As a means of educating students as agents of change, Sapp and Crabtree, Grabill, and Faber all acknowledge service learning’s ability to awaken university students to the needs of their communities and to foster the ethical missions of universities themselves.

By providing students with authentic workplace writing experiences and embedding students within their communities, service learning’s benefits are clearly documented. But what do technical communication programs gain from integrating service learning experiences into their curricula? Integrating service learning into curricula supports community outreach and research—values frequently articulated in university mission statements. Furthermore, as Jo Allen (2010) notes in “Mapping Institutional Values and the Technical Communication Curriculum: A Strategy for Grounding Assessment,” the intersection between institutional values and technical communication curricula is fertile, though often untilled, ground for programmatic assessment:

Many institutions that promote research as a defining aspect of their mission extend that sense only into expectations of faculty productivity, not into the individual curricula in any pervasive way, and especially not at the undergraduate level. It makes all kinds of sense that a technical communication program in a research intensive or extensive institution would reflect that value in its curriculum and thus, in its assessment; yet, only a few do so (p. 40).

Integrating service learning with a research focus into technical communication undergraduate curricula connects the dots between programmatic and institutional values. It embeds undergraduate students in community organizations and provides them with opportunities to improve their technical communication research skills. Such work concludes with authentic deliverables that students can use in workplace portfolios and that programs can employ to self-assess their effectiveness in developing students' technical communication literacies (For more on programmatic self-assessment strategies, see Cargile Cook and Zachry's "Politics, Programmatic Self-Assessment, and the Challenge of Cultural Change," 2010.) The present article focuses on the following aspects of service learning and undergraduate research:

- An overview of literacies students will employ when completing research within service learning settings.
- A sampler of assignments that can be used in one or more courses to develop undergraduate research skills.
- A showcase of courses that have successfully integrated service learning and undergraduate research.

As a whole, the article offers instructors and program directors a broad picture of the benefits of integrating research-based service learning into individual courses or throughout an entire curriculum.

## **Improving Technical Communication Literacies through Service Learning**

To engage students in their community and in the research mission of their university, service learning projects and courses ask them to develop their academic skills while increasing their civic awareness and helping their communities (Huckin, 1997, p. 50). The academic skills technical and professional communication students need to be successful are multiple and layered. They include literacies in six areas: basic writing and design, rhetorical, social, technological, ethical, and critical skills (Cargile Cook, 2002). Service learning

writing assignments allow students to practice all of these literacies and to do so within authentic, transactional settings. Specifically, service learning assignments can be designed to engage with communication problems in specific, usually local organizations. Students conduct research about their projects' intended audiences, purposes, and situations. To complete this research, they employ primary and secondary research methods, collecting data at community fieldwork sites, and, finally, at the completion of the project, they are able to create authentic deliverables that meet their community partners' research needs. At the same time, students' participation in such assignments is reciprocal: what they take from learning opportunities, they give back in valuable community service.

Technical communication service learning settings vary as widely as technical communication programs and the communities in which faculty and students live and work. In general, service learning sites include "local businesses, campus organizations, government agencies, and non-profit organizations" (Huckin, 1997, p. 49). Within these general categories, technical writing articles have identified many possible sites, including food banks, homeless and battered women shelters, environmental agencies, respite care agencies, recreation and rehabilitation services, family health and medical clinics, public health agencies, and disability resource centers (Grabill, 2000; Huckin, 1997; Kastman Breuch, 2001; Matthews and Zimmerman, 1999; Turnley, 2007; Cardenas, 2012). In addition to these generally identified sites, some authors also identify specific agencies with which they have worked: Easter Seals, Boys and Girls Clubs, Habitat for Humanity, and the American Cancer Society. Wherever a writing or communication need arises within the community, service learning assignments are often able to meet these clients' needs while offering students' occasions to practice and develop their communication skills. Within these settings, students can practice their basic writing and design skills by producing a variety of deliverables. In medical and health care settings, students can create health information brochures and instructions (Huckin, 1997; Kastman Breuch, 2001; Sapp and Crabtree, 2002). Job training materials and presentations, assessment and tracking forms, personnel and procedure manuals are also possible assignments in other office settings (Graves, 2001; Rupert and Loudermilk, 2002; Turnley, 2007). To strengthen their design skills, writing assignments can include posters, fact sheets, newsletters, and websites (Sapp & Crabtree, 2002).

Beyond developing basic writing and design skills, skills in other literacies can also be bolstered through service learning. When his students engaged in service learning, Huckin (1997) noted that his students became more sensitive to their audiences and their assignments' rhetorical situations

(p. 57). This increased sensitivity was a direct result of students' interactions with actual clients and their needs. Because clients work directly with students, they are able to respond to student work as it relates to their particular needs, and they can, consequently, provide students with directions and criticism that seem more "realistic" than teacher responses to their work. Blakeslee (2001/2004) credits this difference in perception to "authenticity," which she defines as "students' perceptions of how similar the activities are to actual workplace practices" (p. 350). Giving students this perception of authenticity, she argues, allows them more easily to transition to workplaces where rhetorical practices, generally, and audiences, specifically, are specific but often more complicated than in classroom assignments.

Service learning provides students with opportunities to work with more complicated notions of teamwork and technology than they might otherwise develop through classroom assignments. Turnley (2007) describes the invaluable insights about workplace technologies that students gain from service learning. In her service learning courses, students not only engage in writing assignments for their clients, but they also participate in critical meta-discussions or reflections on "the complex cultural positionings of communication technologies" (p. 108). She writes:

While negotiating different rhetorical situations, students encounter contradictions and complications that offer starting points for critical reflection. Differences in resources, assumptions, and procedures can raise questions about technology and create spaces for understanding technologies as complex sets of relationships among multiple, dynamic factors. With their mutual investment in situated knowledge and practices, critical approaches to technology and community-based projects have complementary goals (p. 109).

Such reflection requires students to consider their technological literacy as more than instrumental, *how to* knowledge. Instead, they begin to consider technology from critical and ethical perspectives situated in their understanding of specific community workplaces and practices.

Immersing students in social literacy activity, whether students are working in teams or simply with subject matter experts within non-profit or community agencies, is another of service learning's benefits. In many service learning technical communication courses, instructors prefer to assign small groups of students to agencies. Matthews and Zimmerman (1999) chose to group their students into teams of three or four. Working together, student groups completed assignments "developed to teach them project management skills: needs assessment, audience analysis, document plan, style guide, document log, usability testing, interim and final report, oral

debriefing, and summative evaluation” (p. 387). While these students demonstrated improved motivation and civic awareness, they also discovered the challenges of working as a team. The challenges sometimes seemed insurmountable, but Matthews and Zimmerman conclude that, with adequate instructional support, students can overcome their lack of “experience in negotiating writing tasks as a team” (p. 402).

## **Incorporating Research into Service: An Assignment and Methods Sampler**

Although service learning’s benefits to communities and to students’ academic skills have been well documented in technical communication literature, student development of research skills, as an outcome of service learning, is absent or glossed in most of these descriptions. Yet service learning assignments can easily be designed to include instruction in investigative and collaborative research. Similarly, the need for research methods instruction in technical communication program curriculum is well documented (Whiteside, 2003; Rainey, Turner, & Dayton, 2005; Spilka, 2009); however, Campbell (2000) found that “a little more than 10% of the undergraduate programs” she surveyed required specific coursework in research methods. While Ford et al. (2009, 2011) have suggested strategies for improving research methods instruction in technical communication undergraduate programs, the connections between service learning and undergraduate research methods instruction have not been clearly articulated. The assignments outlined below seek to articulate this connection. Within a service learning assignment context and with community partners, technical communication students first learn about the organizations in which they find themselves; then they discover the information needed to complete their projects, invent rhetorical strategies for its delivery, and, finally, produce their projects, creatively working with and within their community partners’ needs, situations, and constraints (budgetary, technological, and cultural/political). All of these activities, to be successfully completed, require critical research skills: systematic data collection, analysis, and decision-making based on findings.

### **Pre-service Assignments: Researching to gain rhetorical insights on audience, purpose, and situation**

A critical research component in most service learning projects begins prior to or simultaneously with students’ identification of their clients and projects: gathering information and knowledge about clients and their organizations. Research opportunities at this stage are rich and well defined in tech-

nical communication literature. Initial research typically requires students to use print and electronic sources to gather information. The researched biography, the social issues report, and the agency profile are three such assignments. At the beginning of a service learning project, these assignments can transition students from the research they typically complete in first-year composition courses to the types of research they will encounter in technical communication courses and their future workplaces. Although the audience for these assignments is typically the course instructor and the dissemination of research is limited to the instructor, the research itself is significant in that it prepares students to enter the service learning setting and provides them with better understandings of their community partners and their partners' needs. Additionally, these preliminary assignments provide students with the background—from knowledge of social issues to awareness of constituencies or stakeholders—necessary to plan and execute their actual service learning assignments.

### **The Researched Biography**

The researched biography, as originally developed by Haussamen (1997) for first-year composition students, requires “students to spend at least fifteen hours in a nursing home in conversation with a senior citizen and to write the researched biography about that person” (p. 193). Students then draw upon library sources as well as their interviews to write a biographical essay. Modifying this assignment slightly for technical communication students, Dubinsky (2006) requires his students to write researched biographies of employees within the service learning organizations to “learn more about the lives of their community partners [and] understand the forces that led them to be involved in social issues their organizations represent” (p. 308). After completing the research biography, “students end up with a more in-depth understanding of the organization’s history and mission, thus establishing the “need” in their own mind as well as developing the language with which to present that need to others” (p. 309).

### **The Social Issues Report**

A similar assignment less focused on individuals and more on the issues that agencies addressed is recommended by both Sapp and Crabtree (2002) and Turnley (2007). A social issues report requires students to research the problems that community and non-profit agencies address. Students use library and electronic resources to learn all they can about issues, in general, as well as the contexts in which the agencies work. For example, Sapp and Crabtree report that “one large student team produced a comprehensive report on sexual assault including examinations

of date/acquaintance rape, incest, serial sex crime, criminal prosecution, international perspectives of rape, and theories of recovery. Before they worked on creating documents for the agency, a sexual assault and crisis center, they learned all they could about the issue" (p. 420). Other groups researched "topics of community interest including AIDS, at-risk youth/gangs, teen pregnancies, homeless children, migrant farm workers, drug abuse, and domestic violence" (p. 420-21). Completing this preliminary research streamlined students' integration into agencies because they already had an understanding of the issues with which agencies worked. Because Turnley's class emphasizes technological literacies, her students' issues reports also include details of the technological aspects of agencies' work: how technologies support the work agencies do, how organizations made decisions about what technologies to use, and how the economic situations of non-profits constrained their abilities to use technologies to assist their clients and produce communications. Describing these reports, Turnley (2007) writes:

Students researched not only the local situations in which they were working but also the larger social issues that affected their client's ability to pursue its mission. For example, students encountered tangible evidence of the limited funding available to most communication organizations and became more aware that non-profits typically cannot afford high-end equipment....This attentiveness to socioeconomic forces complements the commitment to situated choices and actions and emphasized the critical approaches to technology and service-learning pedagogies (p. 116).

### **The Agency Profile**

In their textbook, *Service Learning in Technical and Professional Communication* (2003), Bowdon and Scott recommend a third pre-service assignment, the agency profile. In this document, students research and report organizational mission, community problems the organization addresses, kinds of texts it produces, writers/readers of these texts, and ethos of the organization (p. 63). Students can gather this information from internet resources, community information brochures, agency public relations documents, and brief phone calls to agencies. In addition, most universities now have service-learning departments where students can gather information about potential clients and their needs; these departments can be quite useful to students as they begin their initial research into community needs and agencies that meet them.

Pre-service research projects fulfill a number of important pedagogical goals as students gain a better understanding of the social issues with which organizations work and are better prepared for their first forays into the organizations themselves. In addition to expanding students' awareness of social issues in their communities and of agencies' efforts to address these issues, the report also offers students' insights into the constraints non-profit and community agencies face within their communities. Understanding these constraints helps students to identify more fitting solutions for organizational needs. Armed with this pre-service research, students can more easily enter into the work before them.

## **Fieldwork: Honing Data Collection Methods**

Moving beyond the secondary (print and electronic source-based) research of their pre-service assignments, student research turns to fieldwork once they are embedded within their organizations. Fieldwork—defined generally as gathering data through examination of artifacts, talking with research subjects, and observing subjects at work—requires students to interact primarily with people in their service or non-profit organizations, employing a variety of methods to gather the information they need to understand the problems they've been asked to resolve or assist in resolving. In this phase, instructors can draw from a broad range of assignments to teach these methods, ranging from one-on-one interviews to observational fieldwork reports. Before moving students into fieldwork settings, instructors may need to obtain Institutional Research Board (IRB) approval. IRB requirements for service learning projects can vary greatly between institutions. According to posts on a June 2007 thread on the Association for Teachers of Technical Writing listserv, some technical writing instructors are not required to obtain IRB approval for service learning projects, some must seek IRB approval for each individual student project, and others are able to obtain permission for the class as a whole working under the instructor as principal investigator, no matter how many specific projects are underway. Before implementing these fieldwork assignments, instructors should check with their IRB administrator for specific guidance.

## **Interviews and Questionnaires**

Structured interviews are probably the most common assignment and method instructors use to teach students how to interact with others to gather information. Students, working alone or in teams, create interview questions and then meet with their clients to learn more about the work organizations do, their missions, goals, and populations served. Instructors may ask students to report their interview findings in memos or on elec-

tronic discussion boards to assess the effectiveness of the process, but even without formal evaluation of their interview results, students often quickly realize how well they have done their work: If they do not get the answers they need to proceed with their work or if a client has concerns about the work they are producing, the project can shutter to a halt, blocking their work.

To prevent these kinds of obstacles, teaching students to interview should include more than question development—what to ask to get the information—because this approach only addresses half of the interview process. The other half is good listening skills. Even armed with excellent questions, an interviewer can fail without good listening skills. Kastman Breuch (2001) recommends that “instructors discuss elements of listening, such as hearing, attending, understanding, and remembering;” she also suggests using Rogerian rhetoric to acknowledge the speaker and check the listener’s understanding of meaning (p. 205). Teaching and assessing students on their interviewing and listening skills can prevent problems that stymie a project before it ever begins.

Another advantage of using interviews and questionnaires is that they can be completed face-to-face or electronically. Using email, instant messaging, and chat rooms to conduct interviews or deliver questionnaires adds a layer of complexity to these assignments because students must navigate the challenges of communicating solely in writing. In-person interviewing, they learn, can be easier because they can immediately ask follow-up questions and delve more deeply into respondents’ answers, but they may be more challenging to schedule, given their clients and their own schedules. Easier to conduct, email interviews can be sent at any time, but they often require students to follow-up diligently to get responses from their clients, and they require more client time to write answers. Email interviews do not require transcription because they are already written whereas face-to-face interviews require skilled note taking or recording and transcription. Both methods have their advantages and disadvantages; having students try both approaches to data gathering teaches them through experience what these advantages and disadvantages are.

## **Focus Groups**

A variation on the interviewing method is the focus group. Focus groups composed of stakeholders in the project—individuals who work at the community agency, clients from the population, and other stakeholders—can also provide students with key information for completing their assignments. Focus groups are particularly effective because they create

a group dynamic that can trigger ideas that individuals might not arrive at by themselves. Stakeholder focus groups can help students to understand the intricacies of complicated problem and brainstorm solutions. Scott (2004), whose students have used focus groups successfully, reports: “When students form focus groups or other mechanisms for stakeholder involvement early in the course, these stakeholders can help students and the organization define the problem, its significance, and its underlying causes” (p. 301). To use focus groups effectively, students need to prepare carefully with structured questions, plan for recording answers quickly and effectively, consider whether tape or video recorders are necessary for record-keeping, and recognize that analyzing the focus group transcript can be time-consuming and involved. What is gained in time by meeting with many individuals at once may be lost afterward in transcription and data analysis. Nevertheless, focus groups can provide insights that would otherwise be lost if students only employ interviews with their clients.

### **Document Archival Research**

To help students understand the kinds of communication produced within an agency, archival or legacy document research assignments are useful. These assignments require students to review, analyze, and critique the kinds of writing or communication typically produced within the agency. For example, if students are assigned the task of producing a brochure or series of brochures for an agency, they might analyze already existing brochures and critique them, considering content and design questions such as information included, readability, layout, graphic integration, logos, and font styles. If the agency does not yet have brochures, then students may need to go outside the agency to find examples. They might seek examples at organizations outside the community, organizations within the community that serve comparable populations, or state or national agencies with which the community organization is affiliated. This research, wherever it takes place, will help students identify and consider design and content solutions similar to the one they are seeking to develop and implement. Students can then work this research into proposals for the work they have been assigned to complete. Document archive research can also assist students in developing style sheets—a list of style conventions and guidelines used within the organization—which they can then apply and follow as they produce their documents. Style guide research can assist students to “understand the agency’s conventions and expectations for its texts and their designs” (Bowdon and Scott, 2003, p. 151).

## **Reporting Outcomes: Designing, developing, and disseminating deliverables**

Reports and proposals are often the overarching genres that technical communication students write to allow them to discuss their research findings and disseminate them to their community organization. Reports can be simple and short, such as memos that describe workplace observations at the community organization, progress reports, and trip reports that recount what students learn from client interactions; or they can be formal and long, such as style guides and final project reports that describe how teams complete their projects and accomplish their goals.

Among the most popular reports that incorporate research is the proposal. Instructors frequently require students to write a proposal outlining the work they are agreeing to complete for their client. The proposal typically includes much of the preliminary research students have conducted. For example, in the needs analysis found early in a proposal, students can include research they have conducted on the agency, the social issue or issues it addresses, and the population it serves. In describing the solution the team has developed for the community client, students can describe their preliminary archival research into communication solutions and demonstrate how their solution draws upon the strength of previous or comparable work. This work teaches students not only to rely upon research for their design plans but also to argue for the best design and content possible to meet clients' needs.

Reports can also be assigned later in the project process to give students opportunities to convey and receive evaluative comments about their projects. To convey and receive feedback from clients, interviews can be employed. Kastman Breuch (2001) describes these interactions as "information giving" interviews and notes that they require students to be more active because they must provide information to their clients about their projects, listen carefully to their clients' responses, and make adjustments to the work accordingly. If students do not listen well during these interactions, Kastman Breuch notes that "students often miss opportunities to see how their projects could be made better. [For this reason,] students should continually seek clarification about their projects with clients" (p. 206).

Another method for seeking clarification and evaluating project effectiveness is usability testing. Usability testing can take many forms, depending on the product being tested, and it can occur at various points in the document development cycle. Instructors can teach students a variety of methods for incorporating usability testing into their service learning

projects, but Bowdon and Scott (2003) recommend the following: “observe users with text,” “tape-record or videotape users in action,” “interview or administer a short questionnaire to testees,” or “create a user-testing guide that asks students to answer a few questions while they perform the process” (240). After developing and conducting the test, students can then deliver their findings in a usability test report or a recommendation for revision report. Both reports allow students to identify strengths and weaknesses in their projects and to revise them before they deliver them to clients. (For a more detailed exploration and study of usability as a means of engaging clients and students in community service projects, see Blake Scott’s [2008] “The Practice of Usability: Teaching User Engagement Through Service-Learning.”)

## **Serving and Learning Through Research: Vignettes from Across the Country**

The following four vignettes showcase successful service learning projects that instructors in technical communication have conducted at universities across the United States; together they illustrate how service learning projects can seamlessly provide students with research instruction while engaging in community service. The first two vignettes describe course assignments that can be adapted to sections in which students identify their own clients and work in small groups on multiple projects. The final two demonstrate how instructors have directed entire class efforts on a single project. These vignettes illustrate how research methods instruction in conjunction with service learning projects can bolster student research skills and provide students with unique opportunities to complete authentic projects with and for community partners.

### **Service Learning through Individual and Team Writing: San Francisco State University**

At San Francisco State University, Professor Lu Rehling teaches a course in individual and team writing that relies on service learning projects (L. Rehling, personal communication, September 8, 2008). The course requires students to create a series of documents for a client, and at least one of the documents--instructional, promotional, administrative, or technical, depending on their clients' needs--must include significant student research. Additionally, Dr. Rehling (2008) reports that “research on the organization’s needs, audiences, etc., is emphasized as an important part of the assignment, and teaching appropriate research methods (and attitudes)

is an important component of the course. The course also covers organizational culture, and students are asked to research, analyze, and address the organizational cultures of their NPO clients.” Students work in teams to complete the document sets for an external (off-campus) non-profit, community service organization. The course, which is graduation requirement for all technical and professional writing undergraduate majors, is taught annually.

The overarching assignment for the document set allows students to produce a variety of documents and purposes. Recent projects demonstrate the assignment’s ability to provide students with research and writing instruction in authentic settings. The following list identifies clients served through this assignment as well as the documents students researched, produced, and delivered to their clients:

- North Peninsula Food Pantry and Dining Center, Daly City: internal policy and procedures manual, instructional guide for teenage volunteers in the dining room, informational brochure about programs for prospective clients, especially homeless and poor families in need of services.
- Visitacion Valley Community Development Corp, San Francisco: emergency plan (for daycare facility), online newsletter, orientation guide for volunteers, recruitment plan.
- Marin Breast Cancer Watch: annual report, promotional brochure, needs assessment, online tutorial (on vetting news reports on relevant research topics).
- Seven Tpees Youth Program, San Francisco: website content and design, newsletter, donation request letters (templates), emergency procedures.
- California Coalition for Women Prisoners: slide show (for speaker support or kiosk presentation), policies and procedures, technical report.

## **Funding Opportunities Research Project and Proposal— Missouri University of Science and Technology**

To provide her students with authentic experiences writing proposals, Professor Kathryn Northcut uses service learning in a course that requires students to work with clients to find funding sources and then write proposals to compete for this funding (K. Northcut, personal communication, August 13, 2008). She describes her motivation for the course design

this way: “I abhor pretend projects, so I make the students go out and find real challenges to work with. . . . Unfortunately, it seems a lot of teaching in [technical communication] is based on ‘let’s pretend;’ yet there are so many real problems in the world that we should identify and develop those as teaching cases and student projects.” The resulting course includes two research-driven intertwined assignments: the Funding Opportunities Research Project (FORP) and the Major Proposal.

To begin these assignments, students learn the terminology associated with grant-making and research national and local granting agencies; they also meet with guest speakers who introduce them to the grant review process and offer them tips on writing successful grant proposals.

With this initial information in hand, students then embark on the **Funding Opportunities Research Project (FORP)**. Students individually identify clients and projects; they may choose from projects in their field or with organizations to which they belong. In recent semesters, students have worked with clients such as The Chinese Student and Scholars Association, the Rolla High School drama department, the university martial arts organization, and Newburg Public Schools. With their clients identified, students research funding opportunities for such projects; this research provides students with a unique opportunity to explore a variety of funding sources, to evaluate how well the missions of the funding agencies match with their clients’ needs, and to identify the funding opportunities most suitable for their clients and the projects they have chosen. When they have completed their research, students write a short report that includes a detailed project description, needs statement, benefits analysis, budget, and timeline, as well as extensive information about two or more potential sources of funding. Following instructor approval of their FORP, students begin the next phase of their work, the **Major Proposal**, which may be a proposal for a grant, a pre-proposal to a foundation on behalf of an organization, or a draft of an academic research proposal.

## **Engineers Without Borders—Utah State University**

As a semester project, fifteen professional and technical writing undergraduate students worked as a single team to research, design, and build a website for Utah State University’s Engineers Without Borders student organization. Under the direction of Professor Kelli Cargile Cook, these students completed four assignments, all of which involved research, to accomplish this goal in a single semester:

- 1. Problem statement/action plan:** The problem statement addresses the following questions: a) What are the communication

problems the website will solve? What do you need to know to solve these problems? What is your plan to find solutions to these problems? This assignment required students to research and critique other websites as well as technological solutions to meet the organizations' needs. Through this research, students identified design elements and content their clients or they thought should be included in their design, and they began to research technologies for incorporating interactive web-based communications into the site.

- 2. User Analysis Report:** Student groups identified website stakeholders and researched their needs. This report required students to think beyond the actual clients with whom they had met and consider how more removed but nonetheless influential clients, such as donors, university administrators, and national organization officers should shape the content and design of the website.
- 3. Proposal Presentation:** After completing the problem statement, action plan, and detailed user analysis, student worked in groups of three or four to propose a redesign for the EWB website. Their proposal incorporates their findings in the first two assignments, and they are delivered orally in one session to the project clients—chapter sponsors and officers. The clients then deliberated and chose the winning design. The students then recombined into a single team to complete the implementation design the clients selected.
- 4. Website Redesign and Final Project Report:** In the final phase of the class, students formed design, writing, and technology teams and built the new Engineers Without Borders website. Although most of the writing for the site was taken from the previous iteration, the writing team decided to complete additional research to improve website content, and the technological team researched and tested various technologies to deliver the services the client desired. Before delivering the website to their clients, students also conducted usability tests to determine if the website worked as planned. After completing the project, individual students then wrote final project report, summarizing the work they completed to bring the project to a successful conclusion. In addition to summarizing work completed, the final report required students to recount obstacles they encountered and solutions they found for these obstacles and to discuss what they learned about working with

clients, working with each other, and working within technological and organizational constraints.<sup>1</sup>

## **@SEA—Purdue University**

Professors Michael J. Salvo and Jenny Bay of Purdue University collaboratively designed the @SEA project at Purdue University with support from Mark Hannah and Karen Kaiser Lee (M.J. Salvo, personal communication, August 11, 2008). This project combines qualities of study abroad programs with service learning, allowing students to take a series of thematically linked courses that also require them to work with a local community agency, most recently the Tippecanoe County Historical Association.

According to the project's website,<sup>2</sup> students worked to "restructure the exhibits at Fort Ouiatenon in ways that will highlight the Fort's importance to both migration and immigration in 18th century Indiana and to retain it as a vital space of learning and exploration for visitors and scholars in the 21st century." Showcased on the website are specific examples of students' work to achieve this goal. Among these examples are projects such as an online exhibit examining the history and uses of hand fans that are part of the TCHA fan collection, and a series of podcasts describing historical places, events, and persons, such as Tecumseh, William Henry Harrison, and the Feast of the Harvest Moon. Drawing upon research gathered outside the classroom, student teams also applied their writing and research skills to propose promotional documents for TCHA, web projects that promote @Sea's collaboration with TCHA, and researched and developed texts to support the associations' grantsmanship. The extensive needs of an organization like TCHA allowed students to identify the project that most interested them and suited their unique skills, abilities, and talents. In doing so, @Sea engages students "beyond the boundaries of individual formal classes [and allows them] to experience an immersive educational experience where their studies are transformed from learning about community issues to engaging and addressing community needs, ultimately serving as a resource for the greater Lafayette community" (@SEA, 2008).

## **Strategies for Integrating Service Learning and Undergraduate Research into Technical Communication Programs**

As the sample assignments and vignettes illustrate, the possibilities for combining service learning projects with research methods instruction in

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<sup>1</sup> The final website can be seen at <<http://web.ics.purdue.edu/~salvo/@SEA/aboutsea.asp>>.

<sup>2</sup> See <<http://web.ics.purdue.edu/~salvo/@SEA/aboutsea.asp>>.

technical communication undergraduate courses are limited only by the needs of community agencies and organizations. More importantly, these projects and the research associated with them offer instructors and their community partners opportunities to enrich students' understanding of social issues, connecting students with their communities and, in doing so, raising students' social consciousness by asking them to engage not only as practitioners of technical and professional communication but also as citizens who have the power to enact change. As Thomas P. Miller (1991) writes: "When students have a broader perspective on the problematic issues and situations that the community is organized around, they become aware of their own place in 'how things are done' and can then ask themselves if that is how they want to do things and how they want to express themselves in the things they do" (n.p.).

These vignettes also illustrate the integral role that undergraduate research plays in technical communication service learning assignments and programmatic outcomes. Students employ research to understand their community clients and their clients' situations, and they conduct research to find solutions to their clients' communication problems or needs. Most frequently, the research is disseminated directly to the community partner in the form of a communication deliverable that resolves an organizational need. After the communication solution is delivered, students may write or present culminating reports that are then disseminated through more traditional academic channels, such as research showcases and undergraduate research publications, but the most common method of dissemination of the concrete results of research is delivery to the community organization itself. Of course, the benefits to both students and the community do not always come without problems: student projects may not always meet their mark and community partners may, ultimately, decide not to implement student-generated solutions. But even when projects go awry, students learn from the experience of completing them and grow as a result.

Although the assignment sampler and vignettes offer examples of research activities and outcomes that instructors can integrate into their individual courses, program directors seeking broader integration of these practices into program curriculum will find the following suggestions helpful in promoting and integrating service learning and undergraduate research into their programs:

- 1. Review institutional goals and mission statements** related to community outreach, service learning, research, and, if possible, undergraduate research.

- 2. Connect these statements to program goals and assessment outcomes.** See Allen's (2010) article for more specific suggestions for developing assessment outcome statements and tools for measuring successful achievement of these outcomes.
- 3. Identify specific courses within the program where service learning and undergraduate research can be viably and productively integrated.** For example, Ford, Bracken, and Wilson (2009) describe how a senior capstone course can be adapted to incorporate more research methods instruction. Expanding the capstone scope into service-learning context allows instructors to use assignments described in this article. Other courses that might easily integrate service projects include ones that focus on specific genres (such as proposals, reports, marketing and promotional materials) or specific research methods (such as usability).
- 4. Identify and connect to institutional resources and resource centers that support undergraduate research and service learning.** Many institutions now offer service-learning designation for courses and offer support in identifying community partners and projects. Similarly, with the growth in institutional commitments to undergraduate research, many institutions now have undergraduate research administrators who can identify dissemination opportunities within and beyond the campus. These opportunities vary from institutional undergraduate research conferences to statewide research showcases and national conferences, such as those sponsored by the Council for Undergraduate Research (CUR).<sup>3</sup> Administrators from institutional offices for service-learning and undergraduate research are also prepared to assist to faculty in designing service learning and/or research projects; they are also excellent resources for identifying funding and other teaching support to instructors inexperienced in these areas.
- 5. If institutional resources for service learning are unavailable, use one of these resources to identify class or individual student service-learning projects:**
  - a. If institutional guidelines allow, instructors and program di-

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<sup>3</sup> To learn more about CUR, visit its website at [http://www.cur.org/conferences\\_and\\_events/student\\_events/ncur/](http://www.cur.org/conferences_and_events/student_events/ncur/)

rectors can make their own connections with local organizations and identify community research needs. The benefits of personal contact between directors or faculty members and community partners can be significant: successful completion of projects can lead to repeat projects, student internships, and even advisory board memberships.

- b. Use websites, such as <http://www.idealists.org>, to find projects students can complete as a group or as individuals. A June 2013 Web search of <http://www.idealists.org> projects with the terms “volunteer” and “research” produced 2, 713 results. While not all of these results/projects promote technical communication research skills, many do.
- c. When local connections are unavailable, the SlotC (Service Learning Opportunities in Technical Communication) Database provides an excellent resource. Created by instructors at Auburn University, the database, which was initially funded by a research grant from the Council for Programs in Technical and Scientific Communication, serves as a clearinghouse of projects for students and instructors. Included in the database are many opportunities for service learning that can be completed from a distance.<sup>4</sup>

**6. Assess the effectiveness of service learning and research assignments through individual course and programmatic review. Revise activities, assignments, and course outcomes, as necessary.**

Using these strategies, program directors can assess student learning and skills while, at the same time, connecting students to their communities and their communities' agencies. In doing so, these opportunities can raise programmatic profiles in the community, builds goodwill between town-and-gown community members, develop extended student internship opportunities, and identify and recruit potential programmatic advisory board members. Through student service learning and the research involved in it, bridges are built and foundations laid for better educated student/researchers, more strongly connected communities, and improved technical communication programs.

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<sup>4</sup> The database can be accessed at <https://cla.auburn.edu/slotc/index.cfm/pages/index>.

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