Service-Learning from a Distance: Partnering Multiple Universities and Local Governments in a Large Scale Initiative

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Service-learning can be academically effective even when the distances between students and client organizations prevent face-to-face interchanges and site visits. Working with the State of Michigan and Michigan Townships Association, Michigan students from five universities learned about local government while helping Michigan townships develop Web sites and assess project outcomes through remote communication. Challenges were overcome in the management of a three-year project with numerous student teams serving nearly 100 local government partners. Analyzing the project from the perspectives of instructors, students, and government staff, this paper reflects on processes, benefits, problems, and lessons learned for all stakeholders. Recommendations are provided.

One premise of this paper is that the diffusion, or adoption level, of service-learning in higher education has reached a tipping point where complex models are ready to be employed. Two measures of advancing diffusion are research activities and institutional acceptance. Eyler and other faculty at Vanderbilt conducted a comprehensive summary of service-learning research spanning 1993-2000. They found evidence of growth in faculty, student, and administrator interest and a general increase in institutionalization (Eyler, Giles, Stenson, & Gray, 2001). To extend their findings by approximation, the ERIC database (chosen for its focus on educational research and inclusion of proceedings) was systematically searched by year of publication for the keywords "service-learning" and "service learning." Cumulatively plotting the resulting tallies across years rendered a classic "S-curve" of adoption theory. Consistent with the Eyler et al. study, there was a significant increase in service-learning research activity, reaching critical mass in the late-1990s. A gauge of institutional acceptance is institutional membership at the national level. Membership in Campus Compact, a coalition of college and university presidents dedicated to increasing civic engagement and the use of service as a means of learning in higher education, has grown steadily in two decades. Starting with four institutional members in 1985, membership reached 1,144 in 2007. The membership is not dominated by size nor type of institution, is almost equally represented by private and public institutions, and 50% of the institutions had undergraduate enrollments under 3,000 (Campus Compact, 2007).

With this growing acceptance of service-learning, it is now appropriate to examine complex projects to identify models capable of taking higher education service-learning to the next level. International components, cross-disciplinary teams, multiplicity of participants and sites, and remote locations that rely on virtual communication are examples of such complexities. Encompassing the last three components, this paper describes a three-year statewide service-learning project coordinated by three state government agencies, included more than 275 college students supervised by six professors at five universities, and provided a service to nearly 100 local units of government. Representatives of instructors, state agency coordinators, and students co-author this case study presented in the context of the project's origin, iterative process, and outcomes assessment, and analyzed in terms of reflective methods, problems and resolutions, and recommendations.

Project Description

In 2004, an eGovernment review for the State of Michigan reported that residents stated a preference for online government services and had the Internet skills and accessibility consistent with that preference. However, only 276 of Michigan's 1,242 town-

Figure 1
Relationships
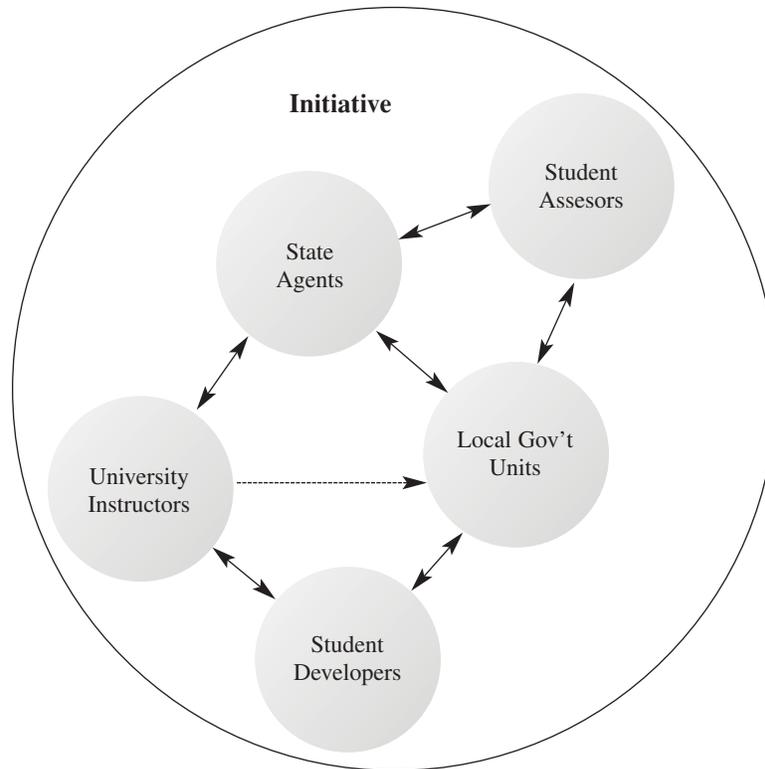
ships (22%) and 209 of Michigan's 534 cities and villages (39%) had Web sites (cyber.org, 2004). The majority of these sites belonged to urban cities and townships. Some rural governments did not recognize the value of a Web site. Those that did had a small staff with limited technical resources and Web development knowledge, no easy access to external technical experts, and few funds. These constraints are consistent with the portrait painted a decade ago by Miller in his research on service-learning in rural communities (1997). Miller's work involved success in local partnerships (school system + community) in rural settings and prompts such questions as: Is it possible to serve rural areas with service-learning projects conducted at geographically distant universities? Will synergy occur when concurrent projects at different universities are overseen by a common agent? How many concurrent short-term projects can be managed by an oversight agency?

To address the above issues and questions, the Office of Technology Partnership (OTP) in the Michigan Department of Information Technology collaborated with the Michigan Townships Association (MTA) and the Michigan Municipal League (MML). They spearheaded an ambitious initiative to put local governments online using academic service-learning projects channeled through Information Systems (IS) programs at Michigan uni-

versities. The goals were the development of operational and sustainable Web sites, achievement of student academic requirements, growth in student interpersonal and communications skills, and increasing student awareness of civic engagement and citizenship that might bear fruition in subsequent years. The project had three phases: pilot, extension, and assessment. An overview of the participant relationships is provided in Figure 1. In this paper, MTA and MML, led by OTP, are collectively referred to as "state agents." Local government units (townships and villages) are the "community partners." Student developers and student assessors are two distinct sets of "student participants." The initiative as a whole is called the "Local Government Website Initiative."

Phase I—Pilot Website Development Project in Year 1

With the State playing an intermediary role, 14 units of government recruited by the Michigan Townships Association were the basis for IS student service-learning projects in a 2004 pilot at Western Michigan University and Michigan State University. About 50 students worked in collaboration with their assigned township to provide each of the 14 participating townships with a Web presence. The pilot year modeled the expected outcome for subsequent teams.

This pilot's success received accolades from

Michigan's Governor:

> This effort serves as a shining example of teamwork and the great things that can happen when people work together. Because the Department of Information Technology, the Michigan Townships Association, and these two outstanding universities worked together, we are now growing the number of townships that are accessible online. It's great for the citizens in those townships and it's great experience for the students. (Michigan Department of Information Technology, 2005)

For this initiative, the Governor's endorsement was significant, not merely a public relations statement; the primary state agent was the Department of Information Technology in the Lansing capitol who were dedicating staff to the project and accountable for this expenditure

Phase II—Extended Web site Development Project in Years 2-3

Based upon the pilot's success, the process shown in Figure 2 was adopted and used as a management guide. OTP recruited developers by soliciting interest from technology faculty at three additional universities: Northern Michigan, Central Michigan, and Ferris State Universities. Concurrently, a list of interested local government participants was jointly prepared by the MTA, MML, and OTP. The state agents and participating university faculty held a multi-site teleconference in 2005 to review lessons learned from the pilot, draft a common process, and ensure mutual understandings. From the list of volunteer local governments, professors selected local government partners. At the same time, a preparation checklist was developed and sent to local governments so they would be ready to respond to student teams, thereby expediting the process. Remote service-learning occurred for almost all teams at all participating universities because their assigned townships and cities were outside reasonable driving distances. At mid-semester, the State office requested from the university professors an informal status report for each of their respective assigned government units and attempts were made to resolve problems. The State office handled publicity and prepared certificates of appreciation for all university faculty and

Figure 2
Coordination Plan

58
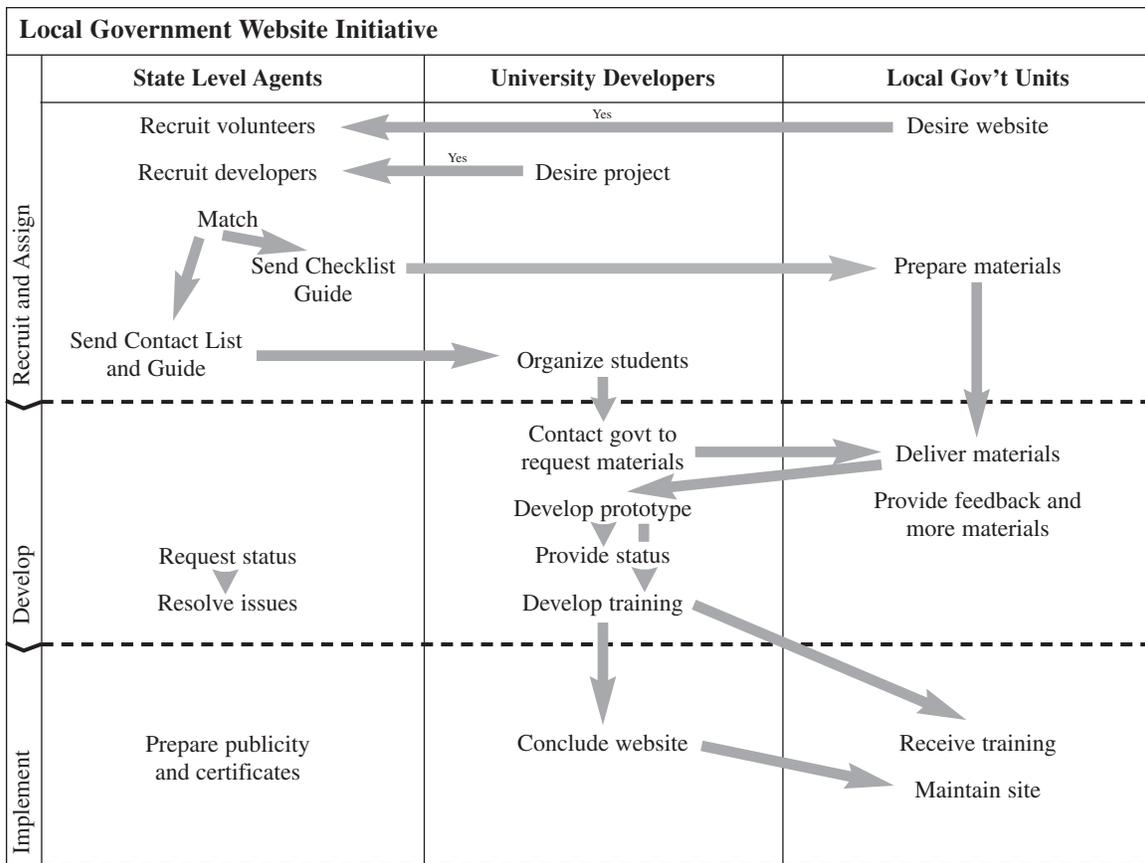
student participants. By the end of this semester, 61 more local units of government had a Web presence.

Faculty at each university were able to autonomously manage and assess their student projects so long as they remained within the framework for University Developers' shown in Figure 2. The situation and operational procedures at the five universities had little variation. Student participants were upper division IS students expected to be able to work in teams to apply knowledge from previous classes with Web design concepts, usability, and standards. Faculty were technically knowledgeable, experienced instructors, and all but one had previously worked with service-learning projects. The syllabi all referenced the project, which was a significant component for all courses. To provide one complete set of processes, this paper describes the instructional procedures at Northern Michigan University, where long distances separated students from all 12 assigned communities and where there was no anticipation that the students would meet the township staff. Significant deviations from procedures at the other universities will be noted.

At Northern Michigan University, the Web site projects were the basis for a senior projects capstone course in Information Systems. Each team of three to four IS students was assigned three townships. Using a common introduction letter, teams initiated contact with their assigned government office. Through email, telephone, and postal mail communications, students gathered requirements and built prototypes on university computers. The process necessitated a student understanding of civic affairs and the role and needs of citizens. In an iterative process, local governments viewed online prototypes from their office, providing feedback to student developers. Project management techniques included team-developed documents, shared server space, project status meetings, and mid-term evaluation. Each team created a project scope specific to their community's needs, built a task plan, and wrote reports. Shared online space and ePortfolios permitted team members, community partners, and the instructor to store documents and emails, contribute, and review and stay abreast of progress. Project teams could view work done by other teams as a way to learn from one another. Weekly team status meetings were held with the instructor.

As with many service-learning situations, effective outcome and knowledge transfer was critical since there is no long-term relationship between student service providers and recipient organizations. An important project goal was to develop Web sites that were maintainable, requiring technical training of community staff. In most cases, community staff had no prior technical Web site skills so student teams prepared training materials to assist in long-term Web site maintenance. Students approached this in various ways: a live training session at the university, tutorial animation, instruction manual specific to the community, general instruction manual, and recommended readings. The only live training session held at Northern Michigan required staff members from three communities to drive more than three hours each way. In other projects, all training materials were either paper- or animation-based because all government partners were more than a five-hour drive away.

Phase III—Project Assessment in Year 3

At the end of Year 2, the effectiveness of the overall project was considered: Have the Web sites been of value to local government offices and citizens? Was the cost in office staff time at both the state agent and local government levels worthwhile? Similar to the project reported by Bushouse (2005), the state coordinators wished to know whether the effort was of sufficient value to continue. To address these questions, in Year 3 the state agents approved an assessment service-learning project with Northern Michigan University. To assure a broader and more objective evaluation, senior business students enrolled in a management information systems course were enlisted rather than IS students. This added a multi-disciplinary aspect to the overall service-learning initiative; one discipline assessed the work of another, as well as the initiative's overall worth. This project ran one semester and directly correlated with the course subject, i.e., use of technology to support an organization. Approximately 20% of class time was devoted to project-related teamwork. Thirteen Michigan townships with new Web sites agreed to participate in the assessment.

The students developed an assessment plan including sample pool, criteria, qualitative and quantitative assessment methods, and division of tasks. Their primary communications were with the local government partners; however, the state agents expected a formal mid-term status report and an in-depth final report. There was no direct contact with student developers; assessment of student learning was not a goal. The students measured outcomes against objectives and indicated strengths and shortcomings of the initiative. The final 19-page report stated, "Overall, the Web sites studied were found to be well developed, somewhat compliant with State guidelines, appreciated by the clerks, and contain current information" (Management Information Systems Students, 2006). They reported a potential marketing concern that many citizens in the studied communities were unaware of the Web sites and not utilizing them.

The state agents considered the Project Evaluation

Report to be at a professional level of quality and it proved immensely beneficial for their agency decision-making. The state agents could see where the process went well and areas for improvement. Based upon the evaluation report, it was decided to continue the program, and local governments would be directed to improve marketing of their new Web sites. The management and marketing students individually received a letter of appreciation from the Governor, thanking them for their role in the overall Web site initiative. Academically, these non-technology students learned to assess the effectiveness of a large-scale government initiative and the appropriate levels of technology usage. The instructor perceived, based upon reflective narratives and observations during the semester, that the student evaluators had more opportunity than the IS Web developer teams to understand the needs and roles of citizens, nuances of local government operation, and challenges facing township officials.

Challenges, Problems, and Resolutions

While this was an excellent, continuously improving program, there were still challenges facing the government coordinating offices: recruitment of community and university partners, inconsistent quality of Web sites, and the academic timeframe. Rather than restating issues addressed in prior studies, the discussion here focuses on factors unique to an advanced level of service-learning—multi-site, multi-agency, multi-university dynamics—as perceived by a state agent, university instructor, and student participant.

Partner Recruitment and Oversight

When this initiative was launched, local municipalities lined up to have a student-built Web site; some had to be waitlisted. After the second year, the state agent began to run out of community partners despite the fact that almost 1000 potential partners existed; one semester there was not one local taker. With less than 10% of the perceived need met, what motivators and deterrents existed for the local communities? In a study of 38 nonprofit organizations, Basinger and Bartholomew (2006) found two core motivations for community participation in service-learning. Extrinsic motives (e.g., helping students, giving them a better understanding of the mission of the nonprofit, and cultivating citizenship) had higher Likert mean scores than intrinsic motives (e.g., getting free labor, cultivating future volunteers, and improving their image). While government organizations are distinct from nonprofits, comparisons can be made to the Websites Initiative where publicity in press releases and links to completed Web sites on the MTA website (www.michigantownships.org) were intrinsic motiva-

tors. It is possible the local governments wanted to be cooperative with the state agents, or they saw value in having access to low cost technical skills generally beyond their local staff. Because the students and universities were not within the immediate locale, there was little expectation of future relations, but "helping students" may have been an extrinsic motivator. As 90% of the potential partners chose not to participate, these motivators may not have been sufficient, or the typically higher rated extrinsic motives were reduced when recruitment was by a state agent instead of the university. The Basinger and Bartholomew study (2006) also found that regardless of motivation, the community staff expected to receive something of value from their service-learning participation. The Phase III assessment process confirmed that all but 1 of the 13 participating community partners reported satisfaction with the student developers' end product (Management Information Systems Students, 2006)—a rate consistent with other studies (Bushouse, 2005). Pritchard and Whitehead (2004) suggest ways to help partners understand service-learning and to accept students as being capable and able to help the communities reach their vision. Their suggestions, aimed at the middle and secondary schools, can apply to higher education: create a class introduction via documents, Web site, or video to personify the students; provide the community partner with a student skills inventory, group resume, or "company" portfolio to add credibility; and convince partners to take students seriously.

Though recruitment of university partners was not problematic, there were logistical issues. The state agent managed five universities each having their own constraints: availability of service-learning course offerings, newly assigned faculty unreceptive to the service-learning project, lower than expected student enrollment, or commitments to other service-learning partners. Actual community-university pairing was time-consuming and could not be done until just prior to the semester. The recruitment, scheduling, and oversight of university and community partners were the responsibility of an OTP staff member—a third party resource allocation that does not exist in small-scale projects. Spreadsheet software, a designated state agent contact, and creation of a management plan (see Figure 2) aided the recruitment and oversight process.

Inconsistent Quality

A lack of standards and clear outcome expectations resulted in inconsistent quality, including content, of the Web pages. Each project team recreated the wheel with varying degrees of quality. Because it was the state agents' goal to put basic local information online for its citizens, the state agent resolved the inconsistency problem with a pair of detailed stan-

dards developed between Phase I and II by a Western Michigan University student. One standards document targeted student Web developers and a second was intended for community partners. These standards streamlined the process, created a minimal content requirement, and offered a means of measuring outcomes success. Mid-semester email status checks from state agents to instructors helped ensure that student developers were fulfilling their commitment and resolving issues as they arose. The Central Michigan University faculty participant felt that a formal process used to document community needs prior to starting actual Web development helped overcome some problems. The development of standards, expectations, and assessment methods for student performance and eventual outcomes have been stated as two key factors in successful service-learning course design for information systems (Kangning, Siow, & Burley, 2007).

Autonomous Role of Faculty

All but one of the six faculty members at the five universities were experienced with real-world IS student projects or service-learning within their local communities. However, there were several instructional challenges unique to this statewide project: the instructor had little control over the site selections; for the most part, faculty were unfamiliar with the locations and unable to make personal site visits; and they had less authority over the process and outcome expectations. Faculty selected project sites from the list of communities before knowing their students' skills or experiences with the locales. With five universities serving almost 100 locations in the course of three years, it was not possible for faculty to visit sites, thereby reducing their facilitating abilities. All these issues conflict with known success factors that are listed in service-learning literature in general, and specific to IS education: the instructor's role in the selection process, knowledge of the community, and the university-community relationship (Honnet & Poulsen, 1989; Hoxmeier & Lenk, 2003; Wilcox & Zigur, 2003). Having an intermediary for overall project management seemed to distance some instructors, both physically and mentally, from community partners as compared to a local project.

The state agents' solution to inconsistent standards—the state-distributed standards for Web developers and local units of government—were reasonable and helpful for faculty. However, standards by their very nature constrain flexibility in academic content and timetables that are of key concern to instructors. Ultimately, faculty must accept that less control is germane to projects of this scale. Beyond the reliance on standards, one solution might be increased communication between university partners.

Community Partner Responsiveness

For each university involved, the constraint of the academic semester timetable was a continuous issue, magnified by distance and project scale. Within the pool of 100 community partners, there were some instances of chronic lack of information or responsiveness. More often, these problems were singular and/or temporary with a flood of content arriving at the last minute. Several community factors contributed to the lack of timely response: lack of understanding of the project's academic timetable, local priorities and resources, and authority to make decisions. In addition, the weight of the team project within each course varied from university to university. Having state agents in the clearinghouse role may have distanced the community from the universities and resulted in less awareness of student timetables. Explicitly encouraging the instructors to play a more active role with the community partners could heighten that awareness and alleviate some unintended unresponsiveness.

As pointed out by Bushouse (2005), service-learning projects might be marketed as "free labor" and a win-win situation, but nothing is really without a cost. There are resource constraints on community organizations when building university alliances and they were wise to pause. For many of the community partners, the Web site project was a secondary priority for their staff who responded to a state-wide initiative rather than a Web site as an internal goal. Small rural township offices, some with only part-time employees, did not have prepared materials to give to the student developers nor the time to gather them within the students' needed timeframe. Regardless of whether these local officials understood the students' time dilemma, daily business took priority over student requests and at times a week passed without reply. In some cases where materials were not in digital format, offices delayed sending anything until all materials could be sent together, rather than giving students something to start. In this initiative, while there was a minimal personnel cost to all the local governments, there was a technology cost to most. Even though this project fell into Bushouse's transactional category—one with a quicker return to the local community—the cost was still too high for some of the smaller townships with very limited human resources. Finally, local government board approval was often needed before moving forward, but monthly board meetings caused further project delays.

All these factors common to service-learning—timing, resources, and authority—were exaggerated by distances that precluded students from visiting the community office to retrieve documents and develop personal relationships with the staff. The state agents

attempted to resolve chronic responsiveness issues with follow-up telephone calls to the local governments. While this intervention was successful to a degree, in some cases it prompted communities to drop out of the project mid-semester. A preventative solution was the creation of a Local Government Website Checklist that was consistent with the standards. Only communities with completed checklists were to be assigned to student project teams, reducing the lack of preparedness and, therefore, unresponsiveness; this was partially successful, as some partners did not really understand the checklist or its intent.

Communication Modes and Impact of Unfamiliarity

Distance led to a high incidence of student-community partner communication difficulties. For students, email is a preferred vehicle for communication; they send an email and expect a reply within 24 hours. When students procrastinated, sent midweek emails, and received no immediate response, they were forced to report a week of little progress. As a solution, students shifted from their preferred communication to telephone and fax. However, small rural community offices had limited hours, which further complicated communication. When left without project materials, student morale dropped as they equated lack of reply with lack of interest. Shifting students to technical training tasks or rotating between multiple communities was a partial solution.

Communication gaps, unfamiliarity with the community, and a lack of understanding of government operations, manifested themselves in lack of content needed for the government Web sites. Solutions were to match students with projects where any kind of connection existed, e.g. vacation or home area of friends or relatives, and reliance on the Web to learn about geographic locations. Some students needed to be trained in research methods to obtain information on their own. While beneficial, class time spent on research methods jeopardized the technology learning goals for the course. In some cases, additional technical learning tasks were assigned to specific students to help span the time as well as fortify skills. In other cases, students were shifted to other groups to create a more even balance of skill sets, responsiveness, and to complete the multiple projects by the given deadline.

To multiple instructors, these barriers appeared to adversely affect student civic connection and engagement. The loss of non-verbal cues contributed to misunderstandings or frustration of non-compliant work on both sides. During the semester, a large portion of affected team weekly meetings were devoted to reflection on these issues, causes, and options.

At the end of the semester, the Northern Michigan

teams holding the on-site training clearly bonded and felt rewarded with their civic contribution. Those solving the communication barrier with frequent telephone contact overcame the distance gap and felt connected with their assigned communities. All students appeared to be more satisfied after receiving the individual letter of appreciation from the Governor thanking them for developing a Michigan local government Web site. The value of this high-level recognition in a large-scale project should not be underestimated as it may significantly improve long-term recollection and future civic involvement.

Integrated Reflection

Student Reflective Activities

Eyler (2002) states and supports that, "Since few college students in traditional programs function beyond [these] mid levels of analysis, it is vital that instructors provide structured reflection to encourage this growth" (p. 522). Extending beyond the end of the project reflection activity, Eyler maintains that when students undergo preparation for service that includes reflection on the task before them, and continuously reflect during service as part of their problem-solving and critical thinking activities, then post-service reflection is better positioned to strengthen learning. In a Campus Compact online reflection resource, "Designing Continuous Reflection," Rama (2001) similarly describes continuous structured reflection, providing examples of activities before, during, and after the experience. In the Websites Initiative, the six participating faculty members were solely responsible for student reflections. Reflective-type activities tended to be ubiquitous and seamless; done before, during, and after the experience as part of the project work; done individually and as a team; and to some extent, done with the local government partners. Generally aligned with the reflection map tool developed by Eyler (p. 523), the activities below are business-oriented in nature, i.e., status meetings and minutes, annotated timesheets, and SWOT (strengths, weaknesses, opportunities, and threats) analyses. These concurrently accomplish tasks, manage the project, and assess outcomes while requiring student reflections on partner situations and their contributing factors.

Before Service. The Northern Michigan University approach used a skills inventory, orientation session, and case studies of previously completed local government Web site projects. Prior to the start of each team project, students responded to an e-mailed skills inventory containing a link to the project description Web page. The inventory focused on technical and interpersonal skills as well as knowledge of the project locales. The students were not asked for their attitude

toward, or prior experience with, service-learning. The instructor was aware that there was a mix of prior student service-learning experience. By reviewing completed Web sites, press releases, project standards, list of townships and villages, and signing a confidentiality agreement, the students were encouraged to reflect upon and appreciate the magnitude of the overall project. Similarly, the other universities conducted pre-surveys, but the level of orientation and usage of a confidentiality agreement differed.

To the extent possible, students had an opportunity to choose a location and began to see the need for the skills inventory. As a group, students attended a project orientation session that allowed discussion on the rationale for service-learning, their role in this high profile project, and to ensure they understood what was expected of them. The local community partners received their standards, an expectation checklist, and university partner information from the state agents. As in the pilot, the local community partners received an introduction letter and scope statement from the students that served as virtual introductions.

During Service. Prior to weekly instructor-team status meetings as part of class time, each student prepared an annotated timesheet explaining tasks done, issues/questions that arose and a task list for the next week. During these meetings, the instructor verbally assessed outcomes against hours worked and future plans. These preparations and meetings provided a continuous basis for team reflection on status, barriers, accomplishments, and emotional releases (both positive and negative). At some universities, project work occurred during class and/or timesheets were not required, but all required some type of regular progress reporting that prompted reflection on the environment of the local government and the students' roles. These activities are common in the IS discipline for project-based learning (van Vliet & Pietron, 2006; Wei, Siow, & Burley, 2007).

After service. At the conclusion of team projects, each student wrote a narrative answering three questions: "Overall, what did I do?", "How did I do it, and why that way?", and "What did I learn technically and personally?" They were encouraged to be honest rather than strive for an expected answer. To a larger audience, each team gave a presentation on their project and lessons learned. Each team prepared training materials and a closure letter —tasks that required them to reflect once more on the partners' needs and what the students had gained from the experience. All universities used some form of culminating reflection: paper, presentation, or both.

As suggested by Eyler (2002), it is likely that the weekly written and oral reflection exercises contributed to perceived deeper reflective narratives submitted at the semester's end. One student summed up

his positive and less positive weekly reflections in a final reflection: "The part I felt was most beneficial was how it required us to work independently and train ourselves," and "As with any project, there were several complications that arose… [one was] the amount of change that was requested. It seemed like every time I thought that I had everything complete, they would come back with a long list of changes to be made. … In the end, I couldn't argue; it is their website." In an interview for a campus newsletter, another student emphasized communication with the townships in order to understand their needs and priorities. He stated, "Once they [townships] see something, they get extra involved and have more ideas…They were our bosses for this project and we did everything we could to keep them happy" (Northern Michigan University, 2006). This student's underscoring of the importance of his relationship with the community encapsulated his weekly reports of regular telephone communication.

Faculty Reflection

Reflection is most often mentioned in reference to students, but should be undertaken by all participants. Instructor reflection is inherent in the decision to continue using a learning paradigm: comparing the learning objectives with actual outcomes, efficacy of the method, and student comments. Faculty and their institutions also consider service-learning in light of relative economic costs and benefits. In a study on the economics of experienced-based learning, Lawson (2007) contends that service-learning projects require more faculty-student meeting time and guided reflection, and that managing three to six projects with fewer than 30 students can be as much work as one large lecture class. However, Lawson cites numerous studies supporting significant student cognitive and engagement benefits, increased faculty enjoyment of teaching, and gains in university public relations. As evidence of faculty-perceived net gain in this Local Government Websites Initiative, all five of the university partners participated for more than one year, some for all three years. Regarding the academic value of their students' participation, there was clear agreement. The Michigan State University instructor stated, "By participating in this project, students learned lessons they could not have learned in the traditional classroom setting. Many students pointed out that they learned more about working in project teams than in any previous classroom experience" (Michigan Department of Information Technology, 2005). Acknowledging that problems did occur, the Central Michigan University instructor nevertheless saw the "real life" component of the experience had value in helping students understand how to work with clients. In a campus news story, the Northern Michigan

instructor related that service-learning gave students an opportunity to apply their academic course work to real-world situations, and that they were more motivated to learn when they had a defined project and expected outcome of their efforts.

Faculty reflections on civic engagement were also positive, but somewhat tempered by the challenges posed in an initiative of this magnitude. Faculty believed students' efforts were well placed; townships benefited from having students assist with developing high-quality sites and training employees to maintain the sites. The students, for the most part, really rose to the challenge. There was an underlying sense of pride to be part of a high profile, multi-institution, community service-learning project. In such projects, it can be posited that reflection is enhanced by the publicity and recognition activities. State press releases, campus and alumni newsletters, presentations to University boards, and in some cases, conference presentations, required considerable formal reflecting on the part of the instructors. The media reports and individual letters of gratitude from the Governor to all instructors and students elevated the sense of efficacy for all academic participants. This heightened worth may create a stronger civic connection in the future between individual and communities, and in university-community partnerships.

Lasting Impact on Students

In an effort to obtain a student perspective on the longer-term impact of service-learning, a leader for a Northern Michigan University student team was contacted 18 months after graduation. Now employed as a Web developer, this graduate strongly believes that participation helped prepare him for his career. "A student can only learn so much from textbooks and research projects. Most of the skills that we learned from the township project came from the interaction between the student teams and community partners," he states. As the project progressed, students experienced pitfalls discussed in textbook activities, such as communication breakdown, internal team dynamics, township board approval causing delay, and the impact of end users' lack of technical knowledge. Those same issues occur regularly in a professional career, but having dealt with them in the project makes them less unexpected and easier to resolve. This graduate's view is supported by research. Van Vliet and Pietron (2006) surveyed IS graduates one year after completing a real-world project. Results from 115 respondents show projects were accurate simulations (88%), good preparation for the workplace (88%), and as compared to textbooks offered better learning possibilities (94%). Acknowledging that projects took more time (79%) and were less structured and predictable than fabricated projects

(52%), only 6% indicated they would have preferred a book project.

Service-learning is shown to contribute to a three-prong outcome: academic learning, personal development, and interpersonal skills. In a case study, Preiser-Houy and Navarrete (2006) quantitatively analyzed artifacts collected during and after an IS student Web development service project for a community school. The study revealed that the service project transformed the students into engaged and active learners and had positive impacts on all three areas. The Northern Michigan University graduate concurred. "As the project moved forward, I started to learn more about the community partners and their technical abilities; I also learned how to better communicate with them. Not only did I hone interpersonal skills, but I also pinpointed my personal strengths and weaknesses, and as a team leader, I had to learn to trust my teammates."

Discourse on the value of service-learning projects for the development of civic engagement skills seems to vary widely. Rama (2001) suggests that faculty within each discipline adopt the views most appropriate for their discipline and type of service projects done within it. For IS disciplines, a wide gap often exists between technology experts' expectations and end users' abilities. A long-term objective for any IS project is sensitivity to this gap. In the Local Governments Website Initiative, many of the townships were located in areas where technology was scarce. After identifying the community partners' technical skills, it became clear to the student developers that building a township Web site that was too complex would not only overwhelm, but would most likely deter, Web site maintenance. "Helping the township clerks bridge the technology gap was truly a rewarding experience," the graduate recalls.

Most of the comments made by the IS graduate are consistent with findings by Wang and Jackson (2005), i.e., students exhibit a dominance of the "charitable view" for the six dimensions of citizenship: Knowledge, Skill, Efficacy, Values, Responsibility, and Commitment. "When the project was complete and all the training was done, the one thing that really stood out in my mind was how good it felt to have helped several communities gain a Web presence," the graduate reports. In their post-course results, Wang and Jackson found an increase in student thinking toward social justice, i.e. affecting change, but not dominance. The graduate's 18-month post-graduation reflections indicate similar perception shifts, "It never occurred to me how few communities had Web sites, or the ability to obtain them, and, if students had not performed that service these communities may still not have a Web presence. The service-learning project tipped the scales in favor of future service simply

because I am more aware of civic needs and that I can make a difference."

Recommendations and Summary

Recommendations for a large-scale, multi-partner, multi-site, remote service project can be broadly grouped into two categories: logistical and affective.

Logistical Recommendations

1. Recruitment of community partners is effectively done by a third-party coordinator who has established relationships with potential partners. After recruitment, the primary relationship line should shift to the community partner-instructor pair.

2. Regular communication throughout the network is needed. Communication should be welcomed as a value-added process, not dreaded as a bureaucratic burden. Ongoing communication between university partners, in this case faculty members, should be encouraged.

3. Overly robust standards for partner recruitment, process, and outcomes can stifle creativity and learning in the service-learning environment. However, minimum standards should be developed and distributed to all partners to avoid misunderstanding and to promote high and consistent quality.

4. A management plan and procedure is essential for the overall coordinator. There is a limit to how many concurrent projects can be effectively managed by an oversight agency. That number depends on the nature of the project, commitment level of community partners, and existence of a designated coordinator able to handle recruitment and project assignments within a short timeframe. An estimated maximum for a clearly defined, one-semester project might be four universities each assigned six to eight community partners.

Affective Recommendations

1. Expanding the use of success stories and peer testimonials may be more effective recruitment strategies than solicitation announcements.

2. To increase community partner commitment to projects, local community goals must align with the goal of the initiative. Conducting a verifiable pre-assessment on potential partners' commitment, readiness, and experience would help in selecting those best suited for the projects.

3. Even with long distance service-learning, students and community partners must still develop a personal bond. If this cannot occur through location familiarity, all efforts must be made for regular telephone conversation. Emails effectively handle lengthy text, documents, and audit trails, but are less effective for discussion, relationship-building, and decision-making.

4. Instructors should assign more than one community partner to each team or have one additional community partner on a wait list. While a dedicated one-on-one approach seems logical, multitasking or a prepared alternates approach keeps teams busy during information vacuums, which should be avoided as much as possible.

5. Maintenance of an ePortfolio or online learning community, preferably at the overall initiative level rather than the university level, can instill professionalism and pride in participation. It also serves as overall documentation of the service-learning project.

6. With regard to the entire reflection process, some students may need guidance through the experience, but this could vary by discipline. Technology students are apt to immediately see the knowledge and skill gains, and feel the community service value later. If faculty can help students understand the operations and constraint of their community partners, i.e., "walk in their shoes," student reflections might show a near-term impact on their future civic behavior.

7. The post-reflection student activities often include attitudinal topics. Adding these types of questions to the pre-reflective survey would give a better assessment of the civic effect of service-learning on the student.

In summary, the initial questions of this paper were answered affirmatively. It is possible to serve rural areas successfully with service-learning projects conducted at geographically distant universities. Success was defined as achieving sustainable and operational outcomes, growth in student academic knowledge, growth in students' interpersonal and communications skills, and an increased student awareness of civic engagement and citizenship. Students gained in-depth knowledge of operations of local units of government as well as technical, planning, and communication skills in their technology discipline. Synergy does occur when concurrent projects at different universities are overseen by a common agent. Over the four years, almost 100 local units of governments were recipients of these academic service-learning projects that strengthened ties between Michigan universities and communities.

Future Research

One topic that surfaced from the study calls for further research—the long-term affect on both student and instructor civic engagement. While some work has been done on future civic engagement by students, existing literature on how service-learning affects the instructor's civic propensities is limited. In a comprehensive meta-analysis of service-learning research from 1993-2000, civic engagement is not mentioned in the five categories of impact on faculty which focus on the role the instructor plays in activating student reflection. (Eyler, Giles, Stenson, & Gray, 2001). Green (2006) offers a more advanced framework for reflective thinking with two parallel processes, student reflection and instructor reflection, moving through the same five recurrent stages of Emotional Reaction, Personalization, Increased Understanding, Connection to Course Content, and Transformational Thinking. However, the premise of Green's model is the improvement of the service-learning process. Rather than limiting reflection to effectiveness of service-learning in the course and the student learning process, an additional benefit should be explored—does reflection increase the instructor's civic engagement?

Note

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