Preparing Future Leaders: Project Management Strategies for Service Learning

By Roger Munger and Amanda Gutowski

Abstract

This article makes a case for teaching project management strategies in service-learning courses. The authors describe three specific documents students can create to help them manage a service-learning project and then present strategies that can help students manage their project teams. Such skills, the authors argue, provide the tools students need to lead more effectively, both in the classroom and in the workplace.

When people are asked to describe characteristics of an effective leader, they often use words and phrases such as problem-solver, effective decision-maker, visionary, self-confident, inspirational, and good communicator. Less often, people describe an effective leader as someone who achieves specified goals on time and on budget. Yet, leadership, at its very essence, is focused on a decidedly prosaic concern: the timely and cost-effective completion of projects. Project management skills, therefore, represent an important, but often overlooked, component of effective leadership.

Although some believe that effective leaders are born that way, many leadership qualities can be learned and refined, especially project management skills. Because project management typically takes place in somewhat well-defined steps (e.g., from developing specifications through delivery to the end user and lifecycle maintenance and support), project management skills can be taught and learned whenever a project needs to be completed. Consequently, project-based service-learning with its focus on completing projects for community partners represents an excellent environment in which students can develop their project management skills and prepare themselves to be leaders in their communities.

Our students need basic project management skills to succeed in project-based service-learning courses. Providing opportunities for students to learn such skills in a course not only increases the likelihood that they will successfully complete the project but also helps them learn skills they can apply in other courses as well as their chosen career. This article outlines the need for project management skills in service-learning courses, describes three specific documents students can create to help them manage a service-learning project, and presents strategies that will help students manage and effectively lead their project teams.

The Need for Project Management Skills

Although significant projects—from the pyramids of Egypt and the Roman aqueducts to the transcontinental railroad and the Hoover Dam—have been successfully completed throughout the history of humankind, modern project management as a discipline did not get its start until World War II. Prior to the 1940s, projects were often completed without the support of formal project management tools and techniques. Sometimes big projects were only successful because the wealth of a kingdom backed the project, slaves provided the necessary labor, and distant deadlines minimized time constraints. However, major defense projects during WWII such as the Manhattan Project became so complex that no one person or group of people could have the expertise to contribute to every part of the project. The urgency and critical nature of these projects ruled out the luxury of trial and error. Consequently, these large projects had to be broken down into sub-projects, each headed by people with the necessary subject-matter knowledge to accomplish the sub-tasks leading to the success of the overall project. To keep the entire project on schedule and within budget, someone—the project manager—had to plan the project, organize groups, monitor progress, acquire necessary resources, and accept responsibility for the success or failure of the overall project.

General Leslie Groves, the project manager for the Manhattan Project, for example, did not have the same knowledge of the atom as physicist J. Robert Oppenheimer, the project's scientific director, but General Groves did have the management skills to lead a top-secret and very technical project spread across three facilities, each located in different areas of the country. This arrangement freed Oppenheimer to concentrate on the science of the project. As a result of the Manhattan Project and other large-scale defense projects as well as civilian projects in diverse fields such as computer science, construction, and the automotive industry, management techniques and tools specific to running large projects were developed. Good project managers today do not need to have in-depth knowledge of all technical aspects of the project to effectively lead. Instead, project managers need expertise in the fundamentals of project management: initiating, planning, executing, controlling and monitoring, and closing (Project Management Institute 2000)—a body of knowledge that can be applied to projects in almost any field, as well as the service-learning classroom.

Driving the development of this body of knowledge were the projects themselves. Projects just became too big, too technical, and too expensive for people to manage them through force of will alone. For example, just the request for proposal (RFP) issued by the government for the C-5A, a giant cargo aircraft, was over twelve hundred pages. The winning bidder's proposal was a 1,466,346-page document weighing 24,927 pounds (Augustine 1997), resulting in an aircraft as "long as a football field and as high as a six-story building" with "a cargo compartment about the size of an eight-lane bowling alley" (Military.cz n.d.). To build a plane such as the C-5A, managers at Lockheed had to carefully plan and manage their effort. Expertise in aeronautical engineering was not enough. Without the project management know-how to administer the project, the project would have failed.

Of course, students in your project-based service-learning courses will not likely be asked to build an 837,000 pound cargo plane. However, project-based service learning can represent a daunting endeavor for many students with its emphasis on collaborative, student-centered, hands-on learning in which student teams partner with nonprofit organizations in semester-long projects to meet a community need or address a community problem. Students will be asked to work on a project that lasts several months and is sufficiently complicated to require them to collaborate with their classmates as well people outside the classroom. They will need to break down the project into more manageable tasks, some of which must be completed before other tasks are started. They will need to rely on other people to get their work done before they can begin their own work. As might be expected, the scope and complexity of some service-learning projects can create problems for students. Many students are used to working individually on small, well-defined exercises or assignments which do not require them to plan their effort beyond reserving a block of time to complete the assignment, usually a day or two before it is due.

Few students have experience completing complex, collaborative projects. Such a lack of experience often manifests itself with dysfunctional student teams and disappointed community partners. Frequently, collaborative projects seem to fail because the group has difficulty communicating (or stops communicating). Although poor communication skills can hinder or doom some service-learning projects, often the underlying problem is more basic: projects fail because students lack the management skills to effectively lead a project team, and they set themselves up for problems from the very start when they fail to adequately plan their project. Unless students have taken a course in project management or picked up a few strategies in the workplace, many students are unprepared to manage collaborative service-learning projects, even though they might have the technical skills and enthusiasm to complete the project.

Managing the Project

Put it in writing. Not only is this good advice for consumers but also this is good advice for students engaged in service-learning projects. Until agreements and decisions are put in writing, they are easily changed and forgotten as well as unavailable for review and consultation. Good project managers know this and, consequently, have developed several genres of documents that help teams successfully complete projects. Characteristics of the project dictate the depth and breadth of the information documented. Large, expensive projects, as you might expect, require more planning and documentation than smaller, less-involved projects. Nevertheless, all projects can benefit from documents which help people plan, monitor, and evaluate. The following sections describe three such project management documents: project plan, progress report, and wrap-up report (Hackos 1994).

Project Plan

Providing time, especially time early in the semester, for students to plan how they will address their service-learning projects is critical. However, merely allowing time for students to meet and discuss their project ideas is not sufficient. Although much effective planning can occur during these discussions, unless agreement is reached and the details put in writing, no planning has really occurred—it's really just wishful thinking. Most students engaged in a service-learning project are enthusiastic and eager to get started. Students, for example, often want to immediately solve the problem. Students might not recognize that planning is also part of the project. They might chafe at the idea of spending time thinking through their entire project from start to finish. It's hard work and sometimes not nearly as easy as just *winging it*. For some students, *winging it* is how they have completed most of their academic assignments, and they incorrectly assume such an approach will work on larger, more complex projects.

They haven't learned yet that planning is the only way to ensure that a complex, collaborative project is successfully completed on time and on budget. Planning allows groups to work through the details and reach agreement before much time and resources have already been invested. Planning prevents small problems from becoming big problems late in the semester. Project managers use a variety of planning documents such as needs analyses, information plans, specifications, and project plans. Admittedly, your course might not be a technical writing, business communication, or management course. Moreover, you might not have enough room in your course's curriculum to allow student groups several weeks to write all of these planning documents. If this is the case, we recommend you require student groups to complete a project plan (see Table 1).

Table 1: Major Sections of a Project Plan

Section	*Description*	*Key Element*	*Purpose*
Title Page	Includes title of project, the names of the student team, community partner, and instructor as well as the date of submission.	Place for sign-off approval (i.e., signatures) for the plan by the student team, instructor, and community partner.	Signatures indicate approval of plan and allow student team to begin work.
Description of Organization	Describes the organization's history, mission, and clients.	Description of the problem, issue, or opportunity facing the organization.	Demonstrates students' understanding of organization and its role in the community.

Table 1 continued: Major Sections of a Project Plan

Section	*Description*	*Key Element*	*Purpose*
Purpose	Describes the problem to be addressed, including its history, factors that gave rise to it, and attempted solutions (if any).	Answers, "What does the organization want to accomplish as a result of this project?"	Demonstrates students' understanding of the problem and what the organization wants them to accomplish.
Audience	Describes knowledge, background, skills, expectations, and needs of the people who will use the results of the project.	Identification of not only primary audience but secondary audiences.	Enables student group to develop materials to meet the needs of target audiences.
Goals and Objectives	Describes the general aims for the project (goals) and lists specific outcomes (objectives).	Objectives are measurable and support goals of project.	Helps student group focus effort on helping community organization achieve specific, measurable results.
Document Contents or Approach	If student group will create printed or online materials, include a detailed outline document(s). If student group will perform a service, include a detailed list of tasks and their descriptions.	Detailed description of all major sections or tasks.	Helps community partner understand what student group will do. Helps student group move from planning to implementation.
Constraints	Documents anticipated problems or concerns	Possible solutions for solving or limiting problems.	Helps student group identify potential problems early in planning process and make arrangements to address these problems.

Table 1 continued: Major Sections of a Project Plan

Section	*Description*	*Key Element*	*Purpose*
Deliverables	Specifically lists all tangible materials such as printed documents to be given to the organization.	Electronic files for all deliverables.	Provides a checklist of what student group must give to organization at the conclusion of the project.
Schedule	Displays, usually in table format, the major deadlines for all deliverables and who is responsible for their completion.	Identifies deadlines for rough drafts, rehearsals, and reviews as well as final deliverables.	Helps student group effectively plan their workload, alert community partner to important deadlines (e.g., reviews), and visually shows who must do what in order to complete the project on time.
Budget (optional)	If budget exists for project, details how funds will be allocated.	Accounts for taxes, shipping, and handling.	Helps student group assess whether sufficient monetary resources are available for their proposed plan.
Community-Organization Team	Lists by title and name people from community organization who will support the project.	Contact information, including preferred method of contact.	Identifies who from community organization has agreed to help. Provides an easy-to-find resource for student group.
Student Team	Lists by name students who will work on the project.	Contact information, including preferred method of contact.	Identifies the members of the student group. Provides an easy-to-find resource for the community partner.
Roles and Responsibilities	Documents the roles and responsibilities of each person involved in the project.	Lists roles and responsibilities of community partners as well as student group.	Helps all parties involved understand what they must do for the project to succeed.

A document with a dozen sections might seem intimidating to students and time consuming in a course not focused on written communication. The complexity of the project will dictate the length and importance of each section. This gives instructors some flexibility in their courses. Depending on the project and the aims of the course, a project plan can be just a few pages and developed over a weekend or it can be twenty to thirty pages, representing the culmination of three to four weeks of planning. The critical role that a project plan plays in project management is that it requires students to think through a project, make decisions, and put their approach to the project in writing. We recommend that student groups submit their project plan to their community partners for review and approval. When this is accomplished, students have a path to follow. Although they likely will revise elements of their plan to accommodate unpredicted developments, the project plan serves as a guide for the student group as well as the instructor and community partner.

Progress Report

Once a project is underway, an effective project manager tracks its progress. Monitoring a project helps students, the community partner, and the instructor learn what, if any, progress is being made, whether the schedule is being followed, and if problems are occurring. Because few projects unfold exactly as written in the project plan, periodic reports help the students take a step back, assess their progress, react to new developments, and refocus their resources. Without periodic assessment, projects tend to slowly spin out of control until someone raises the alarm, and usually by that time small problems have become big headaches. Progress reports also serve an important function for community partners and instructors. These periodic updates give community partners and instructors opportunities to review the group's efforts and to request changes or renegotiate the scope of the project. To track progress, we recommend instructors require one or more progress reports (see Table 2).

Table 2: Major Sections of a Progress Report

Section	*Description*	*Key Element*	*Purpose*
Introduction	Announces purpose of the progress report, and describes the project's purpose and scope as well as status of project at the time of last reporting.	Time period progress report covers.	Orients readers who may have forgotten details about the project.

Table 2 continued: Major Sections of a Progress Report

Section	***Description***	***Key Element***	***Purpose***
Project Summary	Describes briefly the need for the project and the student group's approach.	Answers, "How is the project going, and will it be completed by the deadline and under budget?"	Reminds readers who handle many projects simultaneously of the project's goals and student group's approach. Provides bottom-line assessment for busy readers.
Work Completed	Lists specific accomplishments.	Discussion organized by tasks.	Documents what the team has already achieved.
In-Progress Work	Lists specific work currently being done.	Discussion organized by tasks.	Identifies tasks started but not yet finished.
Work to be Completed	Lists what team must do to complete the project.	An updated schedule that reflects the current status of the project and shows how student group will meet the final deadline.	Reassures readers that project will be completed by the expected date. Provides student group with an up-to-date schedule to follow as well as a list of remaining tasks to complete.
Problems	Identifies problems or concerns facing team.	Solutions to problems raised.	Provides student group chance to bring problems or concerns to the attention of community partner and instructor and to take responsibility for proposing solutions.
Conclusion	Summarizes the status of the project	Provides complete and accurate assessment of progress	By not covering up problems or overstating progress, readers can make informed decisions on how to best respond to the team's progress report.

Progress reports can take many forms: memoranda, short reports, e-mails, letters, and presentations. Used effectively, progress reports can serve as more than mere checks that students are working on the project. Progress reports are opportunities for the student group to consider the current state of the project, ask for advice, and revise their plan to reflect their new understanding of the project. Progress reports also serve as invitations to the instructor and community partner to provide feedback and advice on the project, while time still remains for students to act on these suggestions.

Wrap-Up Report

Many students believe that when they submit the project to the community partner the project is finished. Admittedly, there is a sense of relief by all involved that the project is complete. However, an important task still remains, and consistently completing this task is what separates marginal project managers from excellent project managers. Projects are not finished until the project team has had a chance to reflect on the project—to evaluate what went well and what did not—and to document their findings. Such documented reflection serves three useful functions when it comes to learning how to become a better project manager:

1. Come to agreement on what transpired during the project. Often individual team members in the midst of a complex project do not remember or perceive events in the same manner—it's just human nature. However, before a project team can make steps to improve, it must first agree on what really happened and when it happened.

2. Evaluate actions. Reflection allows team members to debrief themselves. Writing a wrap-up report is an opportunity to think and talk about the project with the benefit of hindsight. Such reflection encourages team members to review and evaluate their actions in a timely (while the project is still fresh in their minds) and constructive manner. It is through this timely reflection that team members can share the often tacit knowledge surrounding project management strategies.

3. Review past practices. Unlike professional athletes who might have video of their performances, the project team has only their personal observations (as well those of the instructor and community partner). Unless documented in some manner (i.e., written down), much of the project management knowledge accumulated during the project is lost to the team and future teams. Documenting their reflections provides a record of what occurred. This record can be reviewed by the team or another team working on a similar project, and, like athletes watching tape of their performances, project teams can identify areas for improvement.

In the midst of a project, of course, students are focused on completing the project. However, taking a moment to reflect after the project has been submitted enables students a chance to step back from the situation and make sense of their actions. Without this opportunity, many of the small but important details about the project are lost forever. To help student teams reflect on their project, we recommend instructors require each team member to complete a wrap-up report (see Table 3).

Table 3: Major Sections of a Wrap-Up Report

Section	*Description*	*Key Element*	*Purpose*
Project Description	Describes project's background, audience, purpose, scope, and duration.	Description of community organization as well as student team.	Provides a context for discussion that follows.
Project Metrics	Describes project time (by major task) and total expenditures (if any).	Comparison of projected time and budget to actual results.	Helps team evaluate the accuracy of their estimates and reflect on causes of any disparities.
Project Activities	Describes major tasks accomplished.	Describes any unusual or unplanned tasks.	Helps team evaluate their approach and reflect on causes of unplanned events.
Project Deliverables	Describes final deliverables	Lists all tangible products given to community partner at project's end.	Helps readers understand the scope of work completed.
Success Stories	Highlights key actions that positively affected the team's productivity.	Speculates why a certain action helped the team.	Emphasizes the positive elements of the project.
Problems Encountered	Describes anything that hindered the success of the project.	Focuses on actions taken (or not taken) and not on individual team members.	Provides chance to reflect on anything that affected the team's productivity.
Recommen-dations	Lists advice for improving a team's productivity on future projects of similar scope and purpose.	Bases recommen-dations on experience with project.	Helps readers learn effective project management strategies for projects of similar scope and purpose.

Not only are wrap-up reports valuable to the project teams who write them but also to future project teams. A new project team, for example, just beginning a project could read archived wrap-up reports. This new project team could learn effective (and not-so-effective) project management strategies from the teams before them. In this manner, reading the archived wrap-up reports helps initiate the new student teams into the processes of effective project management.

Managing the Project Team

Completing a well-managed service-learning project can be an invaluable experience for students of all skill and experience levels. Although challenging, leading a project team often consisting of people who have most likely never worked together offers students a real-world context to learn project management and develop their leadership skills, with the instructor and community partner providing a much-appreciated safety net. In order for the project to be a success, the team needs to learn how to manage itself while facing a tight schedule and consequences that extend beyond the classroom walls and their final grade. The three sections below discuss key management areas that students can focus on in order to make their service-learning project a success.

Managing Information

From the start of the project until the final deliverables are handed over to the client, nothing has more impact on the success of the project than a team's ability to manage information. With over 1.4 trillion e-mail messages sent by U.S. businesses in 2001 (Flynn 2002), it's no wonder that managers don't read cover-to-cover 80 percent of the business documents they receive (Baldwin 1998). Clearly, success of a project depends on knowing who needs information and getting that person the required information at the right time. All the project stakeholders—the student team, the instructor, and the community partner—have specific and often varying information needs. Information must be distributed accurately to all members to ensure that everyone uses the same information to make decisions affecting the project. The instructor, for example, must be regularly and truthfully updated on the team's progress so that he or she can guide the team when decisions are required. The community partner must also be regularly updated on team decisions and periodically sent project drafts. Following are some strategies for managing information among the different stakeholders.

When managing information within the team, students should do the following:

- Develop a simple information-management plan. In the plan, list preferred contact information (e.g., e-mail address, cell phone) for each team member, identify how the team will primarily communicate (e.g., mostly by e-mail with some face-to-face meetings), outline responsibilities (e.g., regularly checking e-mail), and define important terms (e.g., "regularly" might mean at least once every weekday).
- Act quickly to set up meetings to distribute and act on information. Acting quickly to get people the information they need will help ensure that the team makes effective decisions and makes progress toward completing the project.
- Schedule face-to-face meetings if some team members seem to be confused because they lack the right information. Timely meetings to distribute up-to-date information helps the team stay on the same page. Avoid allowing a team member to fall behind because that will only make the project more difficult for all.

When managing information between the project team and the instructor, students should do the following:

- Update the instructor when the team deviates from the project plan and keep the instructor informed of all major decisions the team makes. With accurate information, the instructor can identify potential areas of concern and help the team manage problems.
- Ask for class time to discuss specific problems that the group faces throughout the project. If the instructor does schedule time in class to discuss the project, the team must come prepared to share the information it has and to ask for information when they need it.
- View the instructor as a resource, not as someone the team is trying to impress for a grade. Rather than hiding problems from the instructor, regularly inform the instructor of challenges facing the team.

When managing information between the project team and the community partner, students should do the following:

- Allow for regular opportunities for the community partner to provide input on the team's approach to the project. As the project moves forward, be sure the community partner approves any changes the team needs to make to the project plan. Discussion of expectations, time frames, and understanding of the most important elements of the project are the foundations for success. A good rule-of-thumb to follow is "never surprise your community partner."
- Designate one team member (often called *client liaison*) to communicate with the client. If several group members are regularly contacting the community partner with redundant information requests, the exchange of information gets bogged down. If one team member is responsible for requesting and receiving information from the community partner, that person can monitor the team's information needs and efficiently get the needed information from the community partner and distributed to the team.
- Be polite but persistent. Make sure the community partner fully understands choices being made by the project team.
- Make certain all team members get relevant feedback from the community partner. Forward e-mails or copy pertinent paragraphs so that all team members can see exactly how the community partner is responding.

Managing the Project Experience

A team needs to work together in order to have a successful outcome. On a service-learning project the stakes are raised because the output is for a *"real world"* client. As the complexity of the project increases, students are less able to fall back on the common "divide-and-conquer" collaboration strategy: divide the project into discreet chunks and assign a different chunk to each team member. Complex projects require teams who can maintain a high-level of interaction and who can switch roles and responsibilities as the changing situation demands. As with any project, it is possible that a less experienced team member might not get the hands-on experience that they wanted just because there isn't enough time in the schedule to allow an even distribution of project duties, with each team member getting an opportunity to try every team role. Nevertheless, it is important to remember to keep everyone involved and to make sure that less experienced team members are not left behind. Every group member should have tasks for which they are responsible and understand how they are contributing to the team.

Successful project teams quickly learn to work together and to take advantage of the strengths of individual team members. Although a cliché, the group really is only as strong as its weakest member. If one person fails to get his or her work done then the whole group suffers for it. Those with more experience should take on leadership roles but should make sure they refrain from monopolizing the leadership experience. A balance between a good learning environment and a successful project is often difficult to achieve but necessary for a service-learning project to be successful for all stakeholders.

When managing group dynamics, students should consider the following strategies:
- Ask for information if you need it. Nothing is worse for the group than a team member not completing or incorrectly completing a task.
- Work to the strengths of the team members. Allow students to work on tasks with which they are familiar or comfortable learning more about.
- Assign team members tasks on which they want to work. Enthusiasm goes a long way toward the success of the service-learning project.
- Pair inexperienced team members with more experienced members. The novice team member is less likely to be overwhelmed and the experienced member can expand his or her skill set by teaching skills to another.
- Periodically check in with team members to make sure each feels like he or she is contributing to the success of the project. Team members who feel that their contributions are of no consequence or not valued often drift away from the team.
- When ahead of schedule, help others. Just because a team member finishes a task does not mean the project is on schedule. Team members who are ahead of schedule should actively look to see how they can help those members who are behind.

Managing Time

Once the project gets going and the group falls into a rhythm of working together, keeping to the schedule is essential. In order to complete a complex service-learning project in ten or sixteen weeks, the schedule must often be aggressive, requiring quick turnarounds on drafts and little room for late work. Aggressive schedules require effective time management on the part of the project team (as well as the instructor and community partner). Meeting the milestones of the schedule will depend on how well the team can react and adjust when problems come up. An easy way for a team to manage its time is to create a spreadsheet that lists all of the project deliverables and their respective deadlines. This can be updated by the project team as the situation (inevitably) changes. This tracking system will help keep everyone on time, remind the group what tasks still remain, and will also let members know what tasks they can help with if they are ahead of schedule.

When managing time, students should consider the following strategies:

- Develop a reasonable schedule for the project plan and then make sure the team sticks to it. That doesn't mean the team can't be flexible and adjust the plan as problems arise, but make sure the team stays within the original scope of the project and the final deadlines.
- Keep an up-to-date schedule in an easily accessible location (e.g., on a common server, on a course Web site). When the schedule is available to all team members, they are better able to plan their workload and to meet the deadlines.
- Consider revising responsibilities when the situation calls for it. Offer help to struggling team members, but don't let the schedule slip too much. When tasks are dependent on earlier tasks, the team should be willing to make changes to keep the project moving forward.
- Create a new deadline immediately, if the original one is not met. Each task should always have a deadline; otherwise, the task often will not get completed. Be sure the new deadline will still allow the team to meet the date that the final deliverables are due.

The best way to ensure that a team has a successful service-learning project is for the members to plan ahead. Team members should think through all the tasks they need to complete in order to finish the project as a whole. Then the team should develop a schedule to manage their time as they work toward the final project deadline.

Conclusion

Successful service-learning projects do not occur by luck; rather, successful projects are well-managed projects. By incorporating the project management documents and strategies discussed in this article, service learning instructors can help students conceptualize what they do, both in how the course content relates to the service-learning component and in how project management skills relate to the completion of a successful, collaborative project. In this way, students not only see how they can apply their subject-matter skills in their community but also how they can use project management skills to lead an organization.

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