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Assessing All Dimensions of Learning

Consider this scenario: Students in a seventh-grade science class are studying plant biology to learn about various species of plants and flowers, the process of how plants grow, and how nutrients are formed in fruits and vegetables. The topics are part of the regular science curriculum. To better understand the strengths and vulnerabilities of plant life, the students cultivate a garden of edible plants, whereby they create optimal conditions for the plants to thrive; identify what can happen to nutrients when conditions are less than optimal; and plot, plant, and care for the plants.

The activities, in and of themselves, qualify as a project-based learning experience, whereby students produce a product that demonstrates their understanding of the subject matter. But for the activity to qualify as service learning, the project must be part of a community service activity that meets an identified community need. So the teacher shares with the students a newspaper story about the local homeless shelter that is suffering from shortages of food, especially fresh fruits and vegetables. The article described the staff's concern about its inability to serve enough nutritious meals to those who seek out the shelter's services.

The students discuss this issue and decide that they can help not only by donating the food they grow but also by going to the shelter to help prepare and serve meals using the vegetables and fruits they have cultivated. In preparation for their service, the students work with the shelter staff to learn more about the shelter, what its needs are, and whom it serves. The students eventually organize a food distribution to the homeless shelter, meet and prepare meals for some of the homeless people at the shelter, and develop a nutrition brochure that lists the nutritional value of the ingredients contained in the food they have donated. Throughout the experience, the students reflect on how their experiences in the classroom and garden inform their service at the shelter, and vice versa.

High-quality service learning teaches three types of knowledge: course content, service skills, and social awareness.

Traditional classroom-based assessments primarily test students on their course content knowledge.

Teachers need administrator support and encouragement to develop assessments that measure students' mastery of all three types of knowledge.

In addition, because service learning often extends student learning beyond the preset content of the academic curriculum, the sole use of subject matter assessments to evaluate students' learning from service learning is often inadequate.

More than 10 years ago, the National Service-Learning and Assessment Group, which was composed of teams of educators from several states, examined best practices for assessing service learning. Out of this group grew a realization that student learning in this area cannot be confined to the traditional classroom-based, subject-matter assessments. Instead, alternative and authentic forms of assessment must be considered if teachers want to capture the full range of student learning outcomes from service learning.

As part of their work, the members of California's assessment team came to the conclusion that the kinds of assessment tools they were using to capture service learning outcomes tended to garner data that mostly described what students *did* during their service learning experience, rather than what students *learned*.



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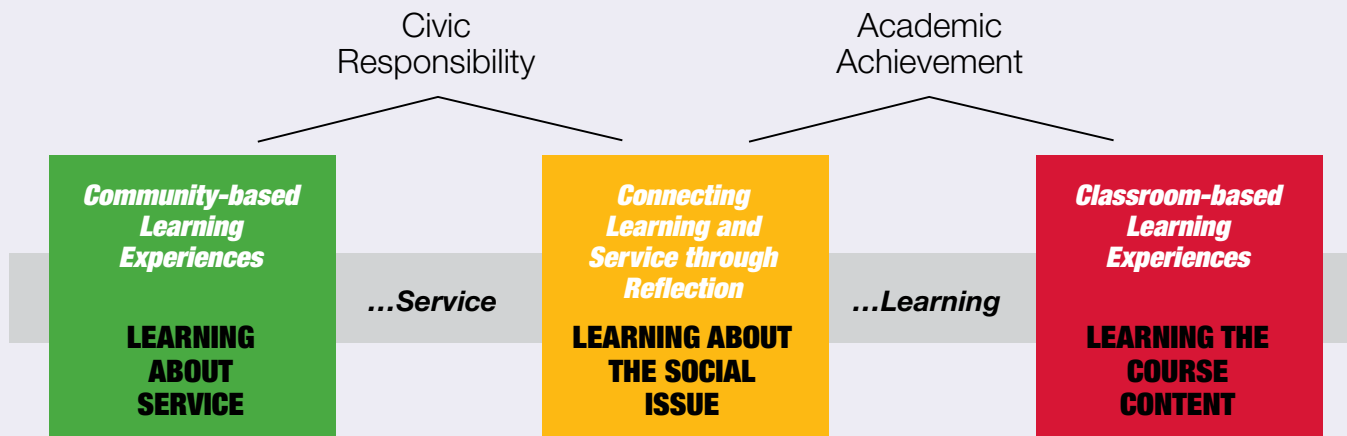
The Assessment Problem

At its most basic level, service learning integrates community service activities with intentional learning components to enhance students' understanding of subject content and to meet identified community needs. Although service learning is similar to other active learning pedagogies—such as project-based, problem-based, inquiry-based, and work-based learning—it is distinguished from other approaches by its focus on the use of community service as the active learning vehicle in which students engage. In this regard, service learning simultaneously enhances students' academic and civic development.

To complicate matters, service learning is a highly adaptable instructional practice that can be incorporated into any subject matter, engage students of all ages, and meet a variety of social needs in all types of communities. The broad application of service learning and the multiple education purposes it serves have implications not only for how service learning is organized and implemented but also for how students' learning is assessed. What learning outcomes should be assessed and which assessment approaches and measures should be used vary from classroom to classroom, even when the particular service issues being addressed are the same.

Figure 1

The Dimensions of Learning in Service-Learning



Source: National Service-Learning and Assessment Study Group. (1999). Service-learning assessment network: A field guide for teachers. Retrieved from www.vermontcommunityworks.org/cwpublications/slassessguide/AssessGdChpt1-2.pdf

After examining and piloting different assessment approaches in their classrooms, the team members agreed that there is much variance in service learning practice across classrooms and, thus, many different ways that student learning can be assessed. They also determined that despite this variance, there are some fundamental learning components that are universal to all service learning experiences. To define these components, the California study group members developed a conceptual model that can guide teachers in developing comprehensive assessments that can more fully capture the outcomes that students garner from service learning.

The conceptual model is predicated on the belief that the learning dimensions of service learning extend beyond subject matter content to include students' gains in knowledge and understanding about important social issues as well as development of specific skills that allow them to perform high-quality service to the community. (See figure 1.) The model suggests that to fully capture students'

learning from service learning, assessments must address three learning dimensions: learning the subject matter, learning particular skills to perform an effective service, and learning about an important social issue. This conceptual framework can be applied to any type of service learning experience.

More Than Academics

Although it is rooted in academics, service learning extends the curriculum's learning dimensions beyond academic goals. Like all seventh graders, the students in the science class must learn the content of the plant biology science curriculum (learning the subject matter), which gives them the knowledge of how to cultivate a robust edible garden. As the students grow their garden, they gain additional knowledge and skills, such as learning how to properly plot and plant fruits and vegetables and the kinds of care plants require to thrive.

Beyond science knowledge, the students might also learn how to work effectively in groups, when and how to pick the fruits and vegetables, and how to prepare the fruits and vegeta-

bles for distribution and consumption (learning skills to do a quality service). The students' involvement at the shelter might challenge their assumptions about homeless people, give them an opportunity to learn about what homeless shelters do, and help them understand the nutrition that fruits and vegetables provide. Thus, through this service learning experience, the students are learning about an important situation in their community that they might otherwise have had limited exposure to (learning about the social issue). (See figure 2 for some of the possible learning outcomes for this particular service learning experience across the three learning dimensions.)

Given this broad range of potential student outcomes, assessments must account for outcomes in each of the three categories—learning subject matter content, learning skills to do a quality service, and learning about a social issue—and focus on those particular learning objectives that are most important for students' overall development and achievement. In the science class, the teacher might give students a science knowledge test that

would capture their learning of plant biology (subject matter content). But this assessment, in and of itself, would be inadequate to assess fully the learning outcomes of service learning.

To capture the learning outcomes more completely, the science teacher might include a rubric that rates the quality and robustness of the plants and the extent to which specific procedures for plant cultivation have been followed. The teacher can use this rubric to assess the strengths and weaknesses of students' understanding of growing and caring for edible plants (learning about service).

To prepare students to learn about homelessness, the teacher can ask the students to write an essay about what they expect to see at the shelter and what they expect their interactions with homeless people will be like. At the end of service learning experience, the teacher can ask students to write another essay about what they actually saw at the shelter and how it was or wasn't aligned with their original expectations. Asking students to describe their attitudes before and after their experience with the homeless can help the teacher ascertain the extent to which students have gained a more realistic understanding of who is homeless, what homeless shelters offer, the importance of the food donations, and a host of other possible learning outcomes.

What is important to note is that the assessment process in service learning does not need to encompass only formal assessments (e.g., graded tests or other assignments). Service learning assessments often also include informal measures (e.g., visual checks of student work) that can be used to facilitate formative assessments of students' learning and understanding. In addition, the service learning activities themselves can serve as components or instruments of the assessment. For

example, the quality of the students' garden plot, the ways in which their interactions with the homeless improve over time, and the accuracy of the nutritional value list they produce can all be used as evidence of learning.

Reflection is another essential element of high-quality service learning. Students' reflections, both written and oral, can be used to conduct formative or summative assessments of achievement of particular learning objectives. Overall, the assessment of service learning should focus on the most essential learning objectives in each of the three dimensions of student learning.

Professional Development

The multifaceted nature of service learning assessment calls for professional development opportunities that can guide teachers in developing a full complement of service-learning assessments for their classrooms. School and district administrators play a central role in creating and supporting these professional development opportunities. In particular, administrators can advance teachers' capacity to develop quality service-learning assessments in three related ways.

Innovation. Administrators must encourage a culture and climate of innovation. Teachers perform better when principals value their professional judgments and give them the autonomy to make the decisions to improve practice (Blase & Kirby, 2008). Service learning requires teachers to explore alternative assessment strategies that can capture the broad array of potential learning outcomes the pedagogy can foster. Teachers must also avoid compartmentalizing the assessments into separate, discrete components. Each assessment activity should be considered part of a comprehensive appraisal of individual students' overall learning.

In the California study group, the participating service learning teachers invented various tools to assess learning. They designed board games that tested students' knowledge of the social issue, filmed students throughout the service learning experience and then had students assess their own learning, and asked community partners to help them identify components of students' learning. The teachers were able to develop effective assessment approaches and tools because their administrators encouraged them to be innovative.

In a constrained school culture, teachers are more likely to stay within their comfort zones and, in turn, are less likely to make the optimal decisions that will best meet their teaching goals (Lietch & Day, 2000). Thus, teachers must receive the license and space to explore, develop, adopt, and evaluate innovative assessment approaches and procedures that can capture the full range of students' learning from service learning.

Reflection. Administrators need to encourage a culture of reflective practice. Reflective practitioners not only seek innovation but also venture outside their comfort zones, take risks with new ideas and practices, and ultimately adopt improved ways of conducting their work (Schön, 1987). Reflective practice is especially important in service learning because of the hidden curriculum that is embedded in service learning activities. Many of the community issues addressed through service learning are steeped in competing social, political, and sometimes religious ideologies. For example, some might view the edible garden project as an activity that exacerbates the homeless problem—the more services that are made available to the homeless, the more homeless persons will be attracted to the neighborhood.

Practitioners of service learning need time to reflect on and work through the various perspectives of a social issue, evaluate their own assumptions and beliefs about it, and gain clarity on the extent to which their own views might influence their students' beliefs. Administrators can encourage reflective practice among teachers (and students) by providing the tools and materials that teachers need to think deeply about competing perspectives.

Administrators can also advance teacher practice by setting guidelines that help teachers understand how far students can be immersed in potentially sensitive or controversial topics. With these guidelines in mind, service learning teachers can be better equipped to reflect on and ultimately identify the most appropriate learning outcomes and the most effective ap-

proaches to assess those outcomes.

Collegiality. Administrators need to encourage teacher-peer exchanges. Learning communities in which teachers who use service learning can share their experiences, challenges, and successes—as well as give and receive constructive peer feedback—can provide a collegial forum for building teachers' capacity for effective service learning assessment (Berman, Bailey, Collins, Kinsley, & Holman, 2000). The California study group was highly successful because the group provided a safe forum for new and experienced service learning teachers to experiment with various assessment approaches, share their experiences with peers, and learn from one another. The peer collaboration energized the teachers, many of whom often felt isolated as the sole professionals in their classrooms.

Extended Learning

Overall, service learning's pedagogical power lies in its ability to integrate academic content with hands-on learning, authentic problem solving, and community action to enhance students' academic achievement and civic development. Service learning extends student learning beyond subject matter content by creating opportunities to learn about important local, national, or global social issues. In addition, because service learning puts students to work to address social issues, students often need to learn new skills. The manner in which teachers approach the assessment process is central to capturing the full range of important learning outcomes from service learning. **PL**

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Figure 2

Learning Dimensions for Plant Biology Edible Garden for the Homeless

