

Research on K-12 School-Based Service-Learning

The Evidence Builds

Practitioners and policy makers are curious about service-learning and its effects. Ms. Billig details for Kappan readers what research tells us about service-learning today and suggests the kinds of questions that still need to be answered.

BY SHELLEY H. BILLIG

T EARLY a decade ago, Dan Conrad and Diane Hedin wrote a synthesis of the research in service-learning. They cited a growing trend toward the adoption of service-learning in K-12 schools

Z \ because of two perceived needs: the reform of youth and the reform of education.

At that time, young people seemed to be growing increasingly alienated from their communities and from society as a

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whole. They were less likely than other age groups to vote or to volunteer, and their top goal was to be well off financially. Test scores were said to be declining in schools, and the U.S. education system was said to be less competitive internationally. Service-learning offered a powerful pedagogical alternative that allowed students to gain a greater understanding of concepts while they contributed to their communities.

Service-learning, though, was still an "unproven" educational approach. Reviewing the research on the impact of service-

learning, Conrad and Hedin concluded that "the case for community service as a legitimate educational practice receives provisional support from quantitative, quasi-experimental studies and even more consistent affirmation from the reports and testimony of participants and practitioners."

Advocacy for service-learning has grown in the past decade, but many of the issues raised by Conrad and Hedin remain current. As service-learning has become more popular, both its advocates and its detractors have begun to ask difficult and serious questions. Just what is service-learning? Is it a

model, a program, a pedagogy, or a philosophy? What key elements need to be in place for a program to claim to be service-learning? What does "best practice" look like? What are the effects and impacts of service-learning? Do the characteristics (for example, grade level, age, socioeconomic status) of the participants matter? Do the characteristics of and relationships with the service recipients influence outcomes? Do school characteristics matter? Does the sponsorship or the service target make a difference? Ten years of research and practice can shed some light on many of these questions.

Prevalence of Service-Learning

In the past decade, service-learning has grown by leaps and bounds. From 1984 through 1997, the number of K-12 students involved in service programs rose from 900,000 to 12,605,740, and the percentage of high school students participating in service-learning nationwide increased from 2% to 25%. In 1984, 27% of all high schools in the U.S. offered some type of service program, and 9% offered service-learning? According to a report issued by the National Center for Educational Statistics in 1999, 64% of all public schools and 83% of public high schools now organize some form of community service for their students' Nearly a third of all schools and half of public high schools provide service-learning programs. This nationally representative survey also found that elementary schools are more likely to have school-wide or gradwide service-learning programs, while middle and high schools are more likely to have individual classes or electives in service-learning. The most common reasons cited for the adoption of service-learning included helping students to become more active members of the community, increasing student knowledge and understanding of the community, meeting real community needs, and encouraging students' altruism and caring for others.

Service-learning programs exist in every state in the Union. Many states, such as California and Maryland, have established service-learning goals for all students, and several cities, such as Chicago and Philadelphia, either strongly encourage or actually mandate service-learning for their students. In some states, such as South Carolina, Delaware, Kentucky, and Vermont, service-learning is strongly promoted as

a strategy for education reform.

Public Support

While service-learning is not widely known or understood by the public, it is supported where it is known. A media scan conducted recently by the W. K. Kellogg Foundation showed that more than half of the articles written about service-learning in the popular media were favorable.' Those that addressed K-12 service-learning typically focused on civic education and positive youth development. Focus groups conducted by the same research group showed that parents and teachers in particular liked the potential for service-learning to impart practical experience, improve academic performance, create better citizens, and aid in personal development. Many respondents, though, were somewhat concerned about whether service-learning would distract schools from the "basics" or subordinate the role of parents in teaching values. They also expressed concern about student safety and mandatory service, calling the latter "involuntary servitude."

Definitions of Service-Learning

As many articles and at least two books explain, service-learning has been a popular educational philosophy for a very long time.' Most trace its roots to the writings of John Dewey and Jean Piaget, and some even go back as far as Alexis de Tocqueville. These philosophers believed that learning occurs best when students are actively involved in their own learning and when the learning has a distinct purpose.

Service-learning, though, is variously defined, and discussion of its definition is often the source of disagreement among proponents. The National Society for Experiential Education, for example, defines service-learning as "any carefully monitored service experience in which a student has intentional learning goals and reflects actively on what he or she is learning throughout the experience." The Corporation for National Service has a narrower definition.

The term "service-learning" means a method under which students or participants learn and develop through active participation in thoughtfully organized service that:

- is conducted in and meets the needs

of a community;

- is coordinated with an elementary school, secondary school, institution of higher education, or community-service program and with the community;
- helps foster civic responsibility;
- is integrated into and enhances the (core) academic curriculum of the students, or the educational components of the community-service program in which the participants are enrolled; and
- provides structured time for the students or participants to reflect on the service experience.'

While disagreement about the definition of service-learning persists, there is general consensus that its major components include "active participation, thoughtfully organized experiences, focus on community needs and school/community coordination, academic curriculum integration, structured time for reflection, opportunities for application of skills and knowledge, extended learning opportunities, and development of a sense of caring for others' ' The disagreements arise when people try to distinguish service-learning from other experiential education approaches, such as volunteer and community service, internships, field studies, and cross-age peer tutoring. Robert Sigmon and James Toole and Pamela Toole, for example, believe that precision in defining terms is critical if the field is to establish clear goals and standards for high-quality practice.' These researchers suggest a typology that distinguishes service-learning from its closely related program types by defining the former as a program in which the service and learning goals are of equal weight, each enhancing the other for all participants. Andrew Furco elaborates by pointing out that service-learning is *intentionally* designed "to equally benefit the provider and the recipient of the service as well as to ensure equal focus on both the service being provided and the learning that is occurring'"

Differences in definition reflect a division of opinion in the field regarding whether service-learning is a philosophy of education, a curricular tool, or a program design. Those who believe that it is a philosophy often discuss it in terms of education reform. Service-learning is viewed either as a way to reinvigorate the central role that schools can play in developing responsible, caring citizens who deeply understand democracy and the meaning of civic responsibility" or as a way to opera-

tionalize constructivist theories of learning." Those who view it as a curricular tool see its potential as a powerful, active form of reciprocal teaching and learning and discuss the need for service-learning to be fully integrated into the curriculum and aligned with standards." Those who view service-learning as a program are more likely to operationalize it as an elective for high school students, an after-school program, or a short-term activity that emphasizes promoting caring and making connections to the community through the provision of a service.

Standards for Quality

While there are strong disagreements about the definition of service-learning, there is a relative consensus on standards for quality. Most of the writing on service-learning refers to the standards for quality established by the Alliance for Service-Learning in Educational Reform (ASLER standards) or the *Essential Elements of Service-Learning*, a version of these standards updated by 13 service-learning organizations." (See the sidebar "Essential Elements," page 663.)

California and Maryland have also established standards for service-learning, and other states are expected to follow suit. Standards for service-learning address both content and performance and are typically stated in terms of what students will know and be able to do as a result of their participation. For example, California specifies that students will understand how community needs are identified, the relationships between schools and communities, and the significance of their service experience. They will demonstrate curricular knowledge and skills and civic responsibility."

Evidence of Impact

Research in the field of service-learning has not caught up with the passion that educators feel for it. What research is available, though, is beginning to build a case for the impacts that practitioners believe to be true. The summary of research findings below presents the past decade of research on service-learning in K-12 schools. For purposes of this review, service-learning is defined as "a teaching strategy that explicitly links community-service experiences to classroom instruction." The power of the summary derives

from the fact that there is a body of evidence that is building to support the field.

Limitations of the Research

Readers should be aware of the limitations of the research. Most of the "research" that exists and is presented here comes from service-learning program evaluations. One of these, the Brandeis study of "quality" Learn and Serve programs, is an evaluation that is national in scope, featuring surveys and observations at multiple sites with students who are tracked over two years and matched with a control group of students.⁶ Even with a strong effort to select programs for quality, however, the programs that are actually evaluated vary greatly in implementation. Some of the studies, such as those by Daniel Weiler and colleagues and by Joseph Follman, are state-level evaluations." Weiler and his colleagues selected "quality" programs in California to evaluate and used multiple methods, but they also found great variation in implementation that was not controlled in the study. Follman used a five-item self-report survey, administered to all Learn and Serve program coordinators in Florida. It is not clear whether these data can be validated. Most of the other studies are evaluations of particular service-learning programs, some of which are internationally implemented models, some of which are unique programs offered at multiple sites, and some of which are single-site models. Still other evaluations examined the effects of participating in any type of service-learning program.

Very few of the studies used control groups, and very few tracked whether the impacts were sustained over time. Many of the studies used self-reports or information from surveys administered before and after a service experience. Some used qualitative methods and case studies. Few, if any, tested hypotheses or cited the theoretical foundations under which the programs were being operated. The field is clearly a messy one, and far more and better research is needed. Still, the body of evidence to date is promising, and much of the evidence cited here is supported by similar results for service-learning found in the higher education literature."

The information is organized here by the broad areas on which service-learning has an impact. First, there is an umbrella summary statement, followed by

the major findings of the studies that support it. For details on each study, readers are urged to consult the original sources.

The Impact of Service-Learning on Personal and Social Development

Service-learning has a positive effect on the personal development of public school youths.

- Middle and high school students who engaged in high-quality service-learning programs showed increases in measures of personal and social responsibility, communication, and sense of educational competence."

- Students who engaged in service-learning ranked responsibility as a more important value and reported a higher sense of responsibility to their school than did comparison groups."

- Students perceive themselves to be more socially competent after engaging in service-learning."

- Students who engaged in service-learning were more likely to treat one another kindly, help one another, and care about doing their best.'

- Students who engaged in service-learning were more likely to increase their sense of self-esteem and self-efficacy."

- Male middle-schoolers reported increased self-esteem and fewer behavioral problems after engaging in service-learning."

- No differences were found between service-learning and control group participants on measures of personal or social responsibility."

Students who participate in service-learning are less likely to engage in "risk" behaviors.

- Students in service-learning programs in elementary and middle schools showed reduced levels of alienation and behavioral problems."

- Students who engaged in service-learning were less likely to be referred to the office for disciplinary measures."

- High school and middle school students who were engaged in service-learning were less likely to engage in behaviors that lead to pregnancy or arrest."

- Middle school students who engaged in service-learning and experienced a structured health curriculum were less likely to engage in unprotected sexual activity or violent behavior."

- No differences were found between

participants in service-learning and control groups on such risk behaviors as use of alcohol, illegal drugs, or weapons."

Service-learning has a positive effect on students' interpersonal development and the ability to relate to culturally diverse groups.

- Middle and elementary school students who participated in service-learning were better able to trust and be trusted by others, to be reliable, and to accept responsibility."

- High school students who participated in high-quality service-learning programs were more likely to develop bonds with more adults, to agree that they could learn from and work with the elderly and disabled, and to feel that they trusted others besides parents and teachers to whom they could turn for help."

- Students who engaged in service-learning showed greater empathy and cognitive complexity than did comparison groups.'

- Students who engaged in high-quality service-learning programs reported greater acceptance of cultural diversity."

- Students who engaged in service-learning showed increases over time in their awareness of cultural differences and in their attitudes toward helping others."

- Students who participated in service-learning enjoyed helping others with projects, became more dependable, and felt more comfortable communicating with ethnically diverse groups"

The Impact of Service-Learning On Civic Responsibility

Service-learning helps develop students' sense of civic and social responsibility and their citizenship skills.

- Students who engaged in high-quality service-learning showed an increase in their awareness of community needs, believed that they could make a difference, and were committed to service now and later in life."

- High school students who participated in high-quality service-learning developed more sophisticated understandings of sociohistorical contexts, were likely to think about politics and morality in society, and were likely to consider how to effect social change."

- Elementary and middle school students who participated in service-learning developed a greater sense of civic responsibility and ethic of service."

- Students who engaged in service-learning increased their understanding of how government works.'

- No differences were found between service-learning participants and others on measures of civic responsibility."

Service-learning provides an avenue for students to become active, positive contributors to society.

- High school students who participated in service-learning and service activities are more likely to be engaged in community organizations and to vote 15 years after their participation than those who did not participate."

- High school students from five states who participated in high-quality service-learning programs increased their political attentiveness, political knowledge, and desire to become more politically active."

- Students who engage in service-learning feel that they can "make a difference.""

- Over 80% of participants in high-quality service-learning programs felt that they had made a positive contribution to the community."

The Impact of Service-Learning On Academic Learning

Service-learning helps students acquire academic skills and knowledge.

- Students in more than half of the high-quality service-learning schools studied showed moderate to strong gains on achievement tests in language arts or reading, improved engagement in school, an improved sense of educational accomplishment, and better homework completion."

- Participation in service-learning was associated with higher scores on the state test of basic skills" and higher grades."

- Students who participated in service-learning earned higher standardized test scores on Indiana's state assessment in third- and eighth-grade math and English than those who did not participate."

- Elementary school students who participated in service-learning scored higher on state tests that measure reading for information and mathematics than nonparticipating students."

- Eighty-three percent of schools with service-learning programs reported that the grade-point averages of participating students improved 76% of the times'

- Middle and high school students who participated in service-learning tutoring programs increased their grade-point averages

and test scores in reading/language arts and in math and were less likely to drop out of schools'

- Students who engaged in service-learning came to class on time more often, completed more classroom tasks, and took the initiative to ask questions more often.³³

- Elementary and middle school students who participated in service-learning had improved problem-solving skills and increased interest in academics.'

Students who participate in service-learning are more engaged in their studies and more motivated to learn.

- Students who participated in high-quality service-learning showed greater gains in measures of school engagement and in mathematics achievement than control groups⁵

- Students at all levels felt that they learned more in service-learning classes than in other classes.⁵⁶

Service-learning is associated with increased student attendance.

- Schools that sponsor service-learning programs reported that attendance increased each year over a three-year period.'

- Students engaged in service-learning had higher attendance rates than their peers in control groups⁵⁸

The Impact of Service-Learning on Career Exploration and Aspirations

Service-learning helps students to become more knowledgeable and realistic about careers.

- Students who participated in service-learning reported gaining career skills and communication skills, along with increases in knowledge of career possibilities."

- Students who engaged in high-quality service-learning developed positive work attitudes and skills.^o

- Teachers believe that participation in service-learning increases career awareness."

The Impact of Service-Learning on Schools

Service-learning results in greater mutual respect between teachers and students.

- Teachers and students in schools with high-quality service-learning programs reported an increase in mutual respect."

- Service-learning builds cohesiveness and more positive peer relations (among

students and among teachers), along with more positive relations between students and teachers."

Service-learning improves the overall school climate.

- Educators and students in schools with strong service-learning programs reported more positive school climate as a result of a feeling of greater connectedness to the school¹ as well as decreased teacher turnover and increased teacher collegiality.⁶⁵

Engaging in service-learning leads to discussions of teaching and learning and of best ways for students to learn.

- In schools that have more than 20% of teachers engaged in service-learning, the activities promote dialogue about the best ways that students learn and transfer information."

- Educators involved in service-learning engage in ongoing reflection and analysis to determine how to improve educational services to students.'

The Impact of Service-Learning On Communities

Service-learning leads to more positive perceptions of schools and youths on the part of community members.

- Community members who participate in service-learning as partners with the schools see youths as valued resources and positive contributors to the community."

Additional Mediators

The research literature also points to a variety of mediating factors that influence both the presence and the strength of the impacts that were documented. For example, a number of studies suggested that the intensity and duration of a project are related to project outcomes.¹ Several pointed out that the more responsibility, autonomy, or choice afforded to students, the stronger the impacts." Others showed that direct, sustained contact with the clients was responsible for more robust outcomes." Still others emphasized the need for particular kinds of reflection or teacher quality.¹¹

Mediators and Outcomes of School-Based Service-Learning

Taken as a whole, the body of research studies in the field of service-learning sug-

gests a newer model for service-learning.* When service-learning meets an authentic community need and includes meaningful planning, service, reflection, and celebration, it typically succeeds in engaging students in the learning task. Most studies attribute this outcome to the nature of service-learning as an activity that students perceive to be relevant, interesting, meaningful, and fun.

While service-learning increases student engagement in the learning task, this effect in itself is apparently not sufficient to produce robust student outcomes. Rather, a whole variety of program design characteristics appear to be necessary to shape the impact. These characteristics include a high degree of *student responsibility* for the service, a high degree of *student autonomy* (students empowered to make decisions, solve problems, and so forth), a high degree of *student choice* (both in the selection of service to be performed and in the planning and the evaluation of the activity), a high degree of *direct contact* with the service recipient (who receives service of some duration, not short-term, one-shot service), and high-quality *reflection activities* (reflection that connects the experience with content, skills, and values). In addition, *well-prepared teachers* who serve as *active partners* and *knowledge mediators* (but not as sole decision makers) and the quality indicators included in "Essential Elements" (page 663) are critical factors in determining student outcomes.

The specific content of the service activity also shapes outcomes in that the particular activity tends to dictate which kinds of impact will occur. For example, if the service is in the area of the environment, then the particular academic or civic or career outcomes will occur more often within a related field - for example, higher grades in science, better understanding of ecology, greater caring about the environment, and better understanding of careers in environmental science.

The research seems to indicate that these conditions are sufficient to lead to a variety of personal development outcomes, such as a reduction in negative behaviors, an increase in a sense of self-efficacy and potency (belief that one can make a difference), resilience, social competence, and related constructs. However, these condi-

*A schematic of the model described here is available at <http://www.LeaningInDeed.org>,

tions are not sufficient to produce other outcomes. What is needed for each of these is a constellation of additional factors.

- *To achieve stronger academic outcomes*, program designs must include intentional integration with specific subject matter in the curriculum (e.g., building a playground or wheelchair ramp needs to be explicitly connected with geometry), alignment with standards (since this is typically what is measured in test scores, grades, unit tests, and other measures of achievement), and reflection activities that use such higher-order thinking skills as analysis, evaluation, and problem solving as ways to understand the service activity and its relationship to community need. When these additional factors are present, strong academic outcomes - as measured by enhanced learning of subject matter, higher grades, or higher test scores - can result.

- *To achieve stronger civic responsibility outcomes*, it is necessary for the teacher to help students make explicit connections with social or citizenship issues (e.g., connecting an analysis of why certain populations are less likely to vote with a voter registration drive or helping students understand cultural views of aging when they are working with the elderly). When students go through this process, strong civic responsibility outcomes - e.g., increased likelihood of voting or serving as a community volunteer, caring about society, the community, and others; and understanding social, economic, and political forces - can result.

- *To achieve career-related outcomes*, it is necessary for the program design to include intentional connections to workplace skills, career pathways, or job knowledge.

The Need for More and Better Research

By following the directions outlined in the existing research literature, researchers can begin to design multi-site, experimental and quasi-experimental longitudinal studies that can test the effects of various program characteristics, using structural equation modeling and other sophisticated quantitative techniques. More and better qualitative research is also needed to provide deeper understandings and texture to our knowledge of how service-learning produces its outcomes.

Researchers can derive many useful and

testable propositions, and future research can ultimately help practitioners understand how to improve practice and programs. There is not enough research to date to know which types of students are most affected, which specific program designs are most powerful, what type of reciprocity with service recipients is needed, how connected to the community the service needs to be, what impacts occur on the school as an organization or on the community as an entity, and so on. Collecting more and better-quality data about service-learning will help to establish its credibility as a pedagogy and its legitimacy as a reform strategy.

In the past decade, service-learning has spread widely across the country, and the number of enthusiastic supporters has grown dramatically. Yet, curiously, given the activist nature of most service-learning, few researchers have been drawn to study service-learning and its effects. The field needs to mobilize its supporters to attract more

interest and funding to conduct better long-term studies.

With more and better research in the next decade, the passion with which practitioners pursue service-learning and believe in its outcomes can be supported in more conventional and data-based ways. A decade ago, Conrad and Hedin wrote:

Only time will tell whether the current interest among politicians and educators in strengthening the service ethic of our nation's youth will be sustained or whether new priorities or the same old pressures for higher test scores and improved basic skills will keep youth service on the fringes of the political and educational agenda."

That conclusion still rings true. Only time will tell whether service-learning will be sustained and whether the ethic of service, combined with powerful learning strategies, will become institutionalized as an important philosophy, pedagogy, and

value within our schools.

1. hi-effective service-learning; there are clear educational goals that require the application of concepts, content, and skills from the academic disciplines and concepts, students in the construction of their own knowledge.
2. In effective service-learning; students are engaged in tasks that challenge and stretch them cognitively and developmentally. .
- Li effective service-learning, assessment is used as a way to enhance student learning as well as to document and evaluate how well students have met content and skill standards.
4. Ineffective-service-learning, students are engaged in service tasks that have clear goals, meet genuine needs in the school or community, and have significant consequences for themselves and others.
5. In effective service-learning, formative and summative evaluation are employed in a systematic evaluation of the service effort and its outcome.'
6. In effective service-learning, student voice is maximized in selecting, designing, implementing; and evaluating the service project.
7. Ineffective service-learning, diversity is valued as demonstrated by its participants, its practice, and its outcomes.
8. In effective service-learning, communication and interaction with the community is promoted and partnerships and collaboration are encouraged.
- 9 In effective service-learning, Students are prepared for all aspects of their service work. They possess a clear understanding of tasks and roles, as well as the skills and information required by the tasks; awareness of safety precautions; and knowledge about and sensitivity to the people with whom they will be working.
10. In effective service-learning; student reflection takes place before, during, and after service, uses multiple methods that encourage critical thinking; and is a central force in the design and fulfillment of curricular objectives.
11. In effective service-learning, multiple methods are designed to acknowledge, celebrate, and further validate students' service work.

Source: National Service-Learning Cooperative, *Essential Elements of Service-Learning* (St. Paul, Minn.: National Youth Leadership Council, April 1998).

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