

Research on K-12 School-Based Service-Learning:

The Evidence Builds

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“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 tests scores and improved basic skills will keep youth service on the fringes of the political and educational agenda.” (Conrad and Hedin, 1991:746)

Nearly a decade ago, Conrad and Hedin wrote a synthesis of the research in service-learning. They cited a growing trend toward adopting service-learning in K-12 schools based on two perceived needs: reform of youth and reform of education.

At that time, youth showed indications of being alienated from their communities and society as a whole. They were less likely to vote or to volunteer compared to other age groups, and their top goal was to be well off financially (Conrad and Hedin, 1991). Test scores were declining in schools and the U.S. educational system was said to be less competitive internationally. Service-learning was said to offer a powerful pedagogical alternative that allowed students to gain a greater understanding of concepts while contributing to their communities to meet authentic needs.

Service-learning, though, was still an “unproven” educational approach. Reviewing the research on the impact of service-learning, Conrad and Hedin (1991: 749) concluded that, “In summary, 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 ten years, but many of the issues and concerns expressed by Conrad and Hedin remain. 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, program, pedagogy, or 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 its effects and impacts? Do the characteristics (for example, grade level, age, socioeconomic status) of its participants matter? Do the characteristics and/or relationships with the service recipients influence outcomes? Does the sponsor (for example, school-based v. community-based) or the service target (for example, the environment or young people or elderly) make a difference? Does grade level, urbanicity, and other characteristics of the school matter?

Ten years of research and practice have provided illumination for many of these questions. This review first addresses the dramatic growth in the implementation of K-12 school-based service-learning over the past decade or so. The surprisingly thorny issue of the definition of service-learning and what represents quality practice is then discussed. Research on service-learning in K-12 settings conducted since the Conrad and Hedin (1991) synthesis are reviewed, along with some of the limitations of the research. A proposed explanatory model of the mediating factors leading to service-learning impacts is then presented. Finally, areas where research is still needed are explored. As will be seen, the people and passion are increasing but the need for convincing proof is as yet unmet.

Prevalence of Service-Learning

In the past decade, the prevalence of service-learning has grown substantially. The University of Minnesota showed that 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 percent. In 1984, 27% of all high schools in the U.S. offered some type of service program, and 9% offered service-learning (Newman and Rutter, 1985). In 1999, according to a recent report issued by the National Center for Educational Statistics (Skinner and Chapman, 1999), 64% of all public schools and 83% of public high schools organize some form of community service for their students. Nearly a third of all schools and half of public high schools organize service-learning programs. This nationally representative survey also found that elementary schools were more likely to have schoolwide or grade-wide service-learning programs while middle and high schools were more likely to have individual classes or electives in service-learning. 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 student altruism and caring for others. (Skinner and Chapman, 1999)

Service-learning programs exist in every state of the United States. Many states, such as California and Maryland, have set service-learning goals for all students, and several cities such as Chicago and Philadelphia either strongly encourage or 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 educational reform and achievement.

Public Support

While service-learning is not widely known or understood by the public, where it is known, it is supported. A media scan conducted recently by the W. K. Kellogg Foundation (APCO Associates, 1999) 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 benefits. Focus groups conducted by the same group showed that parents and teachers especially liked the potential for service-learning to impart practical experience, improving academic performance, creating better citizens, and aiding in personal development. Many respondents, though, were somewhat concerned about whether service-learning will distract schools from the “basics” and/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 (e.g. Anderson, 1998; Conrad and Hedin, 1991; and Kinsley, 1997a, for example) and at least two books (Bhaerman, Cordell and Gomez, 1998; and Stanton, Giles, and Cruz, 1999) explain, service-learning has been a popular educational philosophy for a very long period of time. Most trace its roots in the writings of John Dewey, Jean Piaget, and even Alex DeTocqueville. These philosophers believed that learning best occurs when students are actively involved in their own learning, and when learning has a distinct purpose.

Service-learning, though, is variously defined, and discussion of its definition is often the source of disagreement among its proponents. The National Society for Experiential Education (1994), 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 (1990) has a slightly 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 on the definitions 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”. (Bhaerman, Cordell, and Gomez, 1998) The disagreements come in

when trying to distinguish service-learning from other experiential education approaches such as volunteer and community service, internships, field studies, and cross-age peer tutoring. Sigmon (1994) and Toole and Toole (1992), for example, believe that precision in defining terms is critical if the field is to establish clear goals and standards for quality practice. These researchers suggests a typology that distinguishes service-learning from its closely related program types by defining service-learning as one where the service and learning goals are of equal weight, each enhancing the other for all participants. Furco (1996:5) 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.”

The differences in definition reflect the rift 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 educational 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 (for example, Shaffer, 1993; Siegel and Rockwood, 1993; Boyte, 1991; Barber, 1992; Goodlad, 1998; and Yates and Youniss, 1996b) or as a way to operationalize constructivist theories of learning (for example, Bhaerman, Cordell, and Gomez, 1998; Billig and Kraft, 1998; Owens and Wang, 1997; and Howe, 1997). 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 curriculum and aligned with standards (for example, Cairn: 1992; Billig and Kraft, 1998;

Council of Chief State School Officers, 1994). Those who view service-learning as a program are more likely to operationalize it as an elective for high schools students, an after school program, and/or a short term activity that has an emphasis on promoting caring and connections to the community through provision of a service.

Standards for Quality

While there are strong disagreements about the definition of service-learning, there is relative consensus on standards for quality. Most of the writing on service-learning refers to the standards for quality established by a consortium of service-learning advocates (Alliance for Service-Learning in Educational Reform, 1995) or the Essential Elements of Service-Learning, a 1998 updated version of these standards by 13 service-learning organizations (National Service-Learning Cooperative, 1998). These elements are presented in Exhibit I. The Essential Elements are accompanied by a set of benchmarks for implementation.

Exhibit I: Essential Elements of Service-Learning

Place Exhibit here.

In effective service-learning:

- 1: there are clear educational goals that require the application of concepts, content and skills from the academic disciplines and involves students in the construction of their own knowledge;
- 2: students are engaged in tasks that challenge and stretch them cognitively and developmentally.
- 3: 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: 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: formative and summative evaluation are employed in a systematic evaluation of the service effort and its outcome.

6: student voice is maximized in selecting, designing, implementing and evaluating the service project.

7: diversity is valued as demonstrated by its participants, its practice and its outcomes.

8: communication and interaction with the community are promoted and partnerships and collaboration are encouraged.

9: Students are prepared for all aspects of their service work including a clear understanding of task and role, the skills and information required by the task, awareness of safety precautions, as well as knowledge about and sensitivity to the people with whom they will be working.

10: 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: Multiple methods are designed to acknowledge, celebrate, and further validate students' service work.

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

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. (Superintendent's Challenge Initiative, 1995).

Evidence of Impact

The research in the field has not caught up with the certainty and passion that educators feel for service-learning. What is available, though, begins to build a case for the impacts that practitioners believe to be true.

The summary or research findings below present the past decade of research on service-learning in K-12 schools. For purposes of this review, service-learning was defined as *a teaching strategy that explicitly links community services experiences to classroom instruction*. The summary is provided as a set of results whose power resides in the fact that there is a body of evidence that is building to support the field.

Limitations of the Research

The reader is cautioned to be aware of the limitations of the research. Most of the “research” that exists and is presented here are the results of service-learning program evaluations. One of these, the Brandeis study of “quality” Learn and Serve programs (Melchior, 1999), 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. Even with strong attempts to select programs for quality, however, the programs that are actually evaluated have strong variances in implementation. Some of the studies, such as those by Weiler, et. al., (1998) and

Follman, (1999) are state level evaluations. Weiler, et. al., also selected “quality” programs in California to evaluate and used multiple methods, but also experienced great variation in implementation of the programs that was not controlled in the study. Follman (1999) used a short 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 (like the Valued Youth Program evaluation by Supik, 1996) and some of them are unique programs offered at multiple sites (like the West Virginia Energy Express summer program offered at 70 sites by Butera, et. al., 1999), and some of which are single site models (such as the Leming, 1998 Rockwood School District study). Still others examined the effects of participating in any type of service-learning program (such as the Stephens, 1995 study).

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 survey information administered in a pre/post fashion. 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 is very promising, and much of the evidence here is supported by similar results for service-learning found in the higher education literature (see, for example, Eyler and Giles, 1999; Sax and Astin, 1997).

The information is organized here by area of impact. An umbrella summary statement is presented, along with the research finding from the study that supports it.

For details on each study, the reader is urged to examine the bibliography and consult the original source.

The Impact of Service-Learning on Youth Personal and Social Development

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

- Middle and high school students who engaged in quality service-learning programs showed increases in measures of personal and social responsibility, communication, and sense of educational competence (Weiler, et.al., 1998);
- Students who engaged in service-learning ranked responsibility as a more important value and reported a higher sense of responsibility to their school than comparison groups (Leming, 1998);
- Students perceive themselves to be more socially competent after engaging in service-learning (Scales and Blyth, 1997; O'Bannon, 1999; Morgan and Streb, 1999);
- Students who engaged in service-learning were more likely to treat each other kindly, help each other, and care about doing their best (Berkas, 1997);
- Students who engaged in service-learning were more likely to increase their sense of self-esteem and self-efficacy (Shaffer, 1993; Tierney and Branch, 1992);
- Middle school male students reported increased self-esteem and fewer behavioral problems after engaging in service-learning (Switzer, et.al., 1995).
- No differences were found between service-learning and control group participants on measures of personal or social responsibility (Melchior, 1999);

Ridgell, 1994; Switzer, et. al. (1995) found no differences for females but differences for males).

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

- Students in elementary and middle school service-learning programs showed reduced levels of alienation and behavioral problems (Stephens, 1995; Yates and Youniss, 1996a);
- Students who engaged in service-learning were less likely to be referred to the office for disciplinary measures (Follman, 1997; 1998);
- 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 (Melchior, 1999; Allen, et.al., 1994; Shaffer, 1993);
- 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 (O’Donnell, et.al., 1999).
- No differences were found between service-learning participants and control groups on risk behaviors such as use of alcohol, weapons, or illegal drugs (Melchior, 1999).

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, be reliable, and accept responsibility (Stephens, 1995);

- High school students who participated in high quality service-learning programs were more likely to develop bonds with more adults, agreed that they could learn from and work with the elderly and disabled, and felt that they had trusted others besides parents and teachers to whom they could turn for help (Morgan and Streb, 1999);
- Students who engaged in service-learning showed greater empathy and cognitive complexity than comparison groups (Courneya, 1994);
- Students who engaged in quality service-learning programs reported greater acceptance of cultural diversity (Melchior, 1999; Berkas, 1997);
- Students who engaged in service-learning showed increases over time in their awareness of cultural differences and attitudes toward helping others (Shaffer, 1993; Stephens, 1995);
- Students who participated in service-learning enjoyed helping others with projects, became more dependable for others, and felt more comfortable communicating with ethnically diverse groups (Loesch-Griffin, et.al., 1995).

The Impact of Service-Learning on Civic Responsibility

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

- Students who engaged in high quality service-learning programs showed an increase in the degree to which they felt aware of community needs, believed that they could make a difference, and were committed to service now and later in life (Melchior, 1999; Westheimer and Kahne, 2000; Berkas, 1997);

- High school students who participated in high quality service-learning programs 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 (Yates and Youniss, 1996b; 1998; Morgan and Streb, 1999);
- Elementary and middle school students who participated in service-learning developed a greater sense of civic responsibility and ethic of service (Stephens, 1995);
- Students who engaged in service-learning increased their understanding of how government works (Berkas, 1997);
- No differences were found between service-learning participants and others on measures of civic responsibility (Ford, 1995; Sandler and Vandegrift, 1994).

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

- High school students who participated in service-learning and service are more likely to be engaged in community organization and to vote 15 years after their participation in the program than those who did not participate (Youniss, et.al., 1997; Yates and Youniss, 199b);
- 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 (Morgan and Streb, 1999);
- Students who engage in service-learning feel that they can “make a difference” (O’Bannon, 1999; Cairn, 1999);

- Over 80% of participants in high quality service-learning programs felt that they had made a positive contribution to the community (Melchior, 1999; Billig and Conrad, 1997; Scales and Blyth, 1997).

The Impact of Service-Learning on Academic Learning

Service-learning helps students acquire academic skills and knowledge.

- Students in over half of the high quality service-learning schools studied showed moderate to strong positive gains on student achievement tests in language arts and/or reading, engagement in school, sense of educational accomplishment, and homework completion (Weiler, et.al., 1998);
- Service-learning participation was associated with higher scores on the state test of basic skills (Anderson, Kinsley, Negroni, and Price, 1991) and higher grades (Shumer, 1994; Shaffer, 1993; Dean and Murdock, 1992; O'Bannon, 1999);
- Students who participated in service-learning showed higher standardized test scores Indiana's state assessment in third and eighth grade math and English than those who did not participate (Civic Literacy Project, 2000);
- Elementary school students who participated in service-learning scored higher on state tests that measure reading for information and mathematics than non-participating students (Akujobi and Simmons, 1997);
- 83% of schools with service-learning programs reported that grade point averages of participating service-learning students improved 76% of the time (Follman, 1999);
- 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 math and were less likely to drop out of school (Supik, 1996; Rolzinski, 1990; Duckenfield and Swanson, 1992);

- 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 (Loesch-Griffin, et.al., 1995);
- Elementary and middle school students who participated in service-learning had improved problem-solving skills and increased interest in academics (Stephens, 1995).

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 programs showed an increase in measures of school engagement and achievement in mathematics than control groups (Melchior, 1999);
- Students at all levels felt that they learned more in service-learning classes than other classes (Weiler, et.al., 1998; Berkas, 1997).

Service-learning is associated with increased student attendance.

- Schools that sponsor service-learning program reported that attendance increased every year over a three year period of time (Follman,1998; 1999; O'Bannon, 1999);
- Students engaged in service-learning had higher attendance rates than control group peers (Shaffer, 1993, Supik, 1996; Shumer, 1994).

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, communication skills and positive increases in career exploration knowledge (Berkas, 1997; Billig, et.al, 1999);
- Students who engaged in high quality service-learning programs developed positive work orientation attitudes and skills (Weiler, et.al., 1998);
- Teachers believed that participation in service-learning increases career awareness (Melchior, 1999; Billig and Conrad, 1997).

The Impact of Service-Learning on Schools

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

- Teachers and students in schools with quality service-learning programs reported an increase in mutual respect (Weiler, et.al., 1998; Berkas, 1996);
- Service-learning builds cohesiveness, more positive peer relations among students, among teachers, and between students and teachers in a school (Weiler, et.al., 1998; Berkas, 1996).

Service-learning improves the overall school climate.

- Educators and students in schools with strong service-learning program reported more positive school climate through a feeling of greater connectedness to the school (Billig and Conrad, 1997; Weiler, et.al., 1999; Pickeral, 1998) and through decreased teacher turnover and increased teacher collegiality (Weiler, et.al., 1999).

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

- Service learning promotes dialogue about the best ways that students learn and transfer information in schools that have a ‘critical mass’ (over 20% of teachers) engaged in service-learning (Billig and Conrad, 1997; Melchior, 1999; Kinsley, 1997b);
- Educators involved in service-learning engage in ongoing reflection and analysis to determine how to improve educational services to students (Anderson, et.al., 1991; Billig and Conrad, 1997).

The Impact of Service-Learning on Communities

Service-learning leads to more positive perceptions of school and youth by community members.

- Community members who participate in service-learning as partners with the school see youth as valued resources and positive contributors to community (Billig and Conrad, 1997; 1999; Weiler, et.al., 1999; Melchior, 1999; Kingsland, et.al., 1995; Kinsley, 1997a ; 1997b).

Additional Mediators

The research also points to a variety of mediating factors that influence both the presence and the strength of the impacts that were documented. For example, many of the studies (e.g., Melchior, 1999; Weiler, et.al., 1999) suggest that intensity and duration of the project were related to project outcomes. Several (e.g. Allen, et.al., 1994; Weiler, et.al., 1999) pointed out that the more responsibility, autonomy, and/or choice students had, the stronger the impacts were. Others (e.g. Melchior, 1999; Blyth, Saito, and

Berkas, 1997) showed that direct, sustained contact with the clients was responsible for more robust outcomes. Still others extolled the need for particular kinds of reflection activities (Fertman, 1994; Oullette, 1992; Morgan and Streb, 1999) or teacher quality (e.g. Furco, 1996; Weiler, et.al., 1999).

A Model of School-Based K-12 Service-Learning Mediators and Student Outcomes

Taken as a whole body of research, the studies suggest a model for understanding the relationships and mediators necessary for school-based service-learning to have an impact on students. This model is presented in Exhibit II.

EXHIBIT II: A Model of School-Based K-12 Service-Learning Mediators and Student Outcomes

Put Exhibit II Here

The model shows that service-learning, when it meets the definitions that most apply (meets an authentic community need, includes meaningful planning, service, reflection, and celebration) typically engages students in the learning task. Most studies attribute this to the nature of service-learning as an activity that is perceived by students as being relevant, interesting, meaningful, and fun.

While service-learning increases student engagement in the learning task, this in and of itself is apparently not sufficient to produce robust student outcomes. Rather, a whole variety of program design characteristics appear to be necessary to shape impact. As indicated in the model, these 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 but also in the planning and the evaluation of their activity), *a high degree of direct contact with the service recipient with sufficient intensity and duration of contact* (not short-term, one-shot service activities but those that establish relationships) *and high quality reflection activities* (reflection that goes beyond a summary of experience to connection of 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 program quality indicators reflected in the Essential Elements* (Exhibit I) also serve as critical mediators of student outcomes.

The specific content of the service activity also shapes outcomes in that the particular service activity tends to dictate which area of impact will occur. So, for example, if the service is in the area of environment, the particular academic or civic or career outcomes more often occur within a related field, e.g., higher grades in science, understanding of ecology, caring about the environment or pollution, and understanding 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 reduction of negative behaviors, self-efficacy and potency (belief that you can make a difference), resilience, social competence, and related constructs. However, they are not sufficient to produce the 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 include higher order thinking skills such as analysis, evaluation, and/or problem-solving as a way to understand the service activity and its relationship to society/community need.

When these are present, strong academic outcomes as measured by enhanced learning of subject matter, higher grades, and/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 these are present, strong civic responsibility outcomes such as increased likelihood to vote or serve 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.

A Strong Plea for More and Better Research

The model presented in Exhibit II represents grist for the researchers' mill. With it and other models like it, researchers can begin to design multi-site, experimental and quasi-experimental longitudinal studies that can test the influence of various program characteristics using structural equation modeling and other more sophisticated quantitative techniques than what is currently in use in the field. More and better

qualitative research to provide deeper understandings and to texture our knowledge of how service-learning produces its outcomes are also needed.

There are so many useful, testable propositions that can be derived to help practitioners to understand how to improve practice and programs. There is not enough research 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 and/or on the community as an entity, and so on. Collecting more and better quality data about the service-learning will help to establish its credibility as a competing pedagogy and its legitimacy within school practice and/or as a reform strategy.

Service-learning has grown dramatically in terms of its prevalence and its numbers of enthusiastic supporters. It is curious that in a topic with such an activist orientation, fewer researchers are not drawn to study service-learning and its effects. The field needs to mobilize its supporters to attract more interest and funding to conduct more seminal long-term studies. With more and better research in the next decade, the passion with which practitioners pursue service-learning and “know” its outcomes can be shored up in more conventional data-based ways in addition to promoting action research and other ways of knowing and validating experience. In the meantime, after a decade, the Conrad and Hedin quote at the beginning of this article still holds true. Only time will tell whether service-learning will be sustained and the ethic of service combined with powerful learning strategies will become centralized as an important philosophy, pedagogy, or value within our schools.

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