

Chapter 10

The community as a resource for learning: an analysis of academic service-learning in primary and secondary education

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Andrew Furco's chapter reviews "academic service learning": i.e. experiential learning that takes place in the community as an integral part of the curriculum. These approaches are arousing substantial international interest and embrace pedagogies of engagement; pedagogies of empowerment; national service programmes; values education initiatives; citizenship education programmes; and community resource programmes. They lie between community service and volunteer work, at the service end of the spectrum, and field education and internships, at the learning end. Different forms of service learning are of value in themselves as good education. They also positively influence cognitive achievements in ways discussed in other chapters of this volume, such as by giving opportunities for authentic learning, engaging students actively, fostering co-operation and collaboration, meeting individual interests, empowering learners and extending horizons beyond comfort zones. However, the evidence base on associated outcomes and on what works best and why reveals some emerging, positive findings but remains seriously under-developed.

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The rising tide of service-learning

In western Argentina, a group of students, age 12, is exploring the history of their land as part of the history curriculum. The area in which they live is dry and barren. The local residents, mostly part of the Huarpe Indian people, live in poverty and suffer from a lack of abundant food and water. In studying the history of their land, the students come to learn that their Indian ancestors were farmers who lived on fertile land that grew corn and other crops. The students decide to explore why today their land is so dry and barren. In their investigation, they come to learn that 25 years earlier, the local water was diverted to a nearby region to irrigate the vineyards of some newly established wineries. Seeking to make their land fertile again, the students develop a plan to reclaim their water. They ultimately make a successful case to the provincial government to re-divert some of the water back to their province. The students design and construct an aqueduct which carries the water back to their community. They also bring direct water access to local residents who have had to rely on collecting water from the town's common watering well. The students plant various vegetables and establish an education program designed to advance residents' capacity to cultivate nutritious and saleable grains and vegetables.

The students in this example participated in an educational experience known as **academic service-learning**. At its most basic level, academic service-learning is an experiential learning pedagogy in which education is delivered by engaging students in community service that is integrated with the learning objectives of core academic curricula. Academic service-learning is premised on providing students with contextualised learning experiences that are based on authentic, real-time situations in their communities. Using the community as a resource for learning, the primary goal of academic service-learning is to enhance students' understanding of the broader value and utility of academic lessons within the traditional disciplines (e.g. science, mathematics, social studies, language arts and fine arts), all while engaging young people in social activities through which they derive and implement solutions to important community issues (Scheckley and Keeton, 1997). Ideally, the community service the students perform helps them learn better how the academic concepts taught in the classroom can be applied to situations in their everyday lives. In this regard, academic service-learning seeks simultaneously to enhance students' academic achievement and their civic development (Eylar and Giles, 1999; Tapia, 2007).

Today, service-learning is one of the fastest growing educational initiatives in contemporary primary, secondary and post-secondary education. Substantial national service-learning initiatives are now part of the education systems of

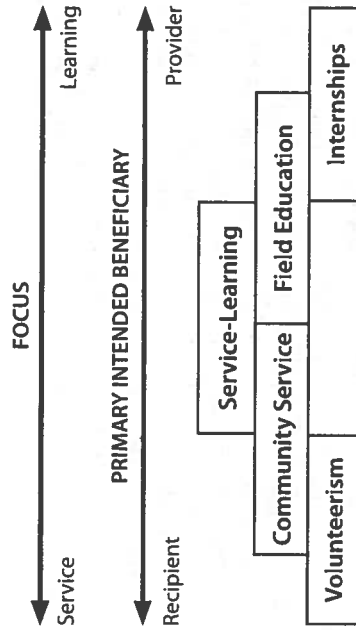
Argentina, Singapore and the United States, and are emerging in many OECD and non-OECD countries, including Australia, Canada, Chile, Columbia, Germany, Ireland, Italy, Japan, Mexico, South Africa, Spain and the United Kingdom. While a world-wide, comprehensive assessment of school-sponsored service-learning initiatives is not available, evidence of its rising tide in educational settings is suggested by the growing body of publications, conferences and international networks devoted to advancing the practice and study of service-learning in primary, secondary and tertiary education.

The extant literature and other materials suggest that academic service-learning experiences can be generated from curriculum in any discipline and involve students at all educational levels (Cairn and Kielsmeier, 1991; Spring, Grimm and Dietz, 2008). The literature also reveals that the community service activities in which students are engaged tackle a broad range of societal issues, including those concerning the environment, health, public safety, human needs, literacy and multiculturalism (Tapia, 2008). While these community service activities typically focus on local issues, they can also be national or global in scope. In implementing service-learning activities, students can address a societal issue either through **direct service** (e.g. serving food at a homeless shelter) or **indirect service** (e.g. producing a research report that provides recommendations to the homeless shelter for improving its food distribution). Regardless of the type or focus of the service activity, academic service-learning is designed to help students apply their academic content knowledge to act on authentic and often complex societal issues.

Although service-learning resembles other forms of community-based learning approaches, such as internships, field studies, or volunteerism, it is distinguished from these programmes by placing equal emphasis on both community service and academic learning, as well as its intention to benefit both the provider and recipient of the service (See Figure 10.1).

Academic service-learning also resembles the popular educational practice of project-based learning (see Barron and Darling-Hammond, this volume), a pedagogy that actively engages students in learning academic knowledge through the development of individual or group projects. However, as distinct from many such activities, academic service-learning learning projects are purposefully community-focused and community-based, are usually conducted in partnership with members of the community, and, most importantly, are designed with a community need in mind. In essence, like a textbook or laboratory, the community becomes a resource for learning whereby the environs outside school offer students authentic learning opportunities to use their academic knowledge and skills to construct and implement solutions to real-life social problems in the local community or broader society.

Figure 10.1. Service-learning compared to other forms of experiential learning



Source: Furco, A. (1996).

In addition to academic service-learning, other less academically intensive forms of service-learning have emerged in recent years. These forms, sometimes referred to as **co-curricular service-learning**, are typically practised outside the formal academic curriculum (e.g. in school-sponsored after-school programmes) or in non-formal educational settings (e.g. boys and girls clubs, Boy Scouts of America). While co-curricular service-learning also contains an organising curriculum with intentional learning objectives, this curriculum tends to emphasise non-academic goals, such as developing participants' personal leadership development, social development, diversity awareness and the like.

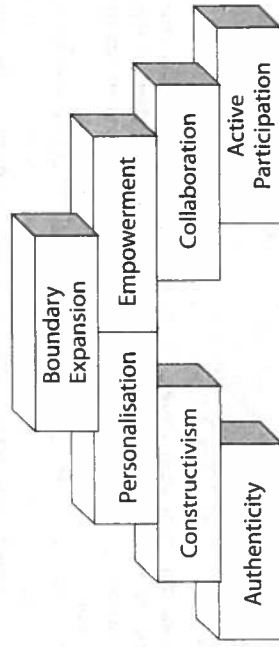
The essence of the pedagogy

The emphasis on community service and its use of the community as a resource for academic study intentionally shifts the role that students play in the learning process: they become producers rather than recipients of knowledge, active rather than passive learners, and providers rather than recipients of assistance (Cairn and Kielsmeier, 1991). Unlike most other experiential learning approaches, academic service-learning places students in situations where they focus less on utilising resources for their own gain and more on acting as a resource for the benefit of others. Service-learning creates an educational atmosphere whereby learners confront real-life issues through community-engaged experiences that call on them to develop meaningful, academically-relevant actions that have real consequences for the community and themselves. Therefore, the true value of academic service-learning lies

in its capacity to include and incorporate several effective teaching practices which enhance learning and promote positive youth development (Eccles and Gootman, 2002). As exemplified by the case of the Argentinian students in the introduction, service-learning combines several important building blocks that create the conditions for quality teaching and optimal learning (see Figure 10.2).

Each of these blocks has been found, through independent research studies to enhance student learning and engagement in school.

Figure 10.2. Quality teaching elements present in service-learning



Source: Furco (2007).

Opportunities for authentic learning

In academic service-learning, students are confronted with real-life issues: the problem-solving is not about pre-fabricated questions at the end of a textbook chapter or hypothetical scenarios. Rather, the students are challenged to study real problems in real time for real people. In the case of the service-learning students in Argentina, the students explored an actual event and its consequences on the community in which they live. The students' work focused on identifying the best strategy to address an authentic problem that would have actual consequences for the people in their community. Authentic learning experiences help students create meaning and context in ways that can enhance their cognitive and emotional investment in the learning process (Slavkin, 2004).

Engaging students actively

Academic service-learning blends traditional classroom learning with hands-on application of academic content to real-life situations in the community. Like most experiential learning strategies, service-learning is inherently

a student-centred pedagogy that conceives learning as a process in which students engage rather than as a set of products or outcomes that students have to produce (Kolb, 1984). The learning occurs in the journey students take to arrive at their intended outcomes (e.g. pass an examination, complete a research paper). For example, the quest to discover why their land was so barren today when it was fertile some years before put the students in the Argentine classroom on a learning journey in which they led the process of exploration and problem-solving. These students were active participants in the learning and their actions and ideas drove the curriculum. Moving students from being passive to active learners has been found to increase their investment in the learning tasks, raise their intrinsic motivation, and enhance their sense of ability to see the task through (Deci, 1984; Prince, 2004).

A constructivist approach

Through academic service-learning, students are asked to derive strategies that address messy and knotty societal issues through collaborative work with peers and adults in the community. Rather than focusing on finding the right answer, service-learning experiences engage students in exploring various options, perspectives and viable strategies. It also requires them to construct and implement the strategy (or strategies) that they believe will be most effective. As the students in Argentina sought to reclaim the water for their community, they considered and explored various approaches by consulting with peers and adults, and ultimately they built consensus on which approach would work best. Overall, service-learning relies on a constructivist philosophy of education which suggests that students internalise learning more fully when instruction is delivered through an active, discovery-focused process (Fosnot, 1996).

Forging co-operation, partnerships and collaboration

Learning is as much a social enterprise as it is a cognitive one. Many academic service-learning projects are built on co-operative group work whereby students learn to navigate and negotiate with peers and others as they develop and implement their community service plans. Co-operative and collaborative approaches to learning can enhance student engagement, and strengthen bonds among students from diverse backgrounds (Slavin, 1986; Erickson, 1990; Scheckley and Keeton, 1997; Johnson and Johnson, 2006). The concept of *solidaridad*, a central feature of the academic service-learning programmes in Argentina, is built on this collaborative approach to service and community-building. Young people join forces in challenging, transformational experiences that engender strong bonds and often produce long-lasting relationships (Tapia, 2007). As the students in the history class constructed the aqueducts, they worked with professionals and other adults who assisted and guided them

throughout the process. This partnership played an important role in keeping the students committed as they felt their work was being validated by adult members of the community. Service-learning encourages students to work in partnership with community agency representatives who, as co-educators, often become important mentors to the students. Engagement with these and other adult role models can promote healthy adolescent development and young people's overall success in school (Eccles and Gootman, 2002).

Meeting individual needs and interests

Academic service-learning is centred on engaging students in community service projects that matter to them. High quality service-learning experiences tap students' individual talents and abilities in ways that allow all of them to make a contribution to the issue(s) at hand regardless of age, ability, or ambition. The history students embarked on their learning journey because they were curious about the state of their land. The work mattered to them personally, and consequently they invested themselves fully in the learning process. Highly personalised curricula have been found to increase students' time on task and overall engagement with learning (Jaros and Deakin-Crick, 2007).

Empowering learners

Student voice in academic service-learning is considered to be an important part of the pedagogy. Service-learners need to work out plans of action and are given the responsibility to decide how those actions will be enacted. Putting students in charge of the activities can help them to hone their decision-making skills, learn how to take responsibility for successes and failures, and build self-confidence and leadership capacities (Clark, 1988). Adolescents in particular need a lot of experience exercising these skills before they can apply them fully and efficiently. The students in Argentina were in charge of the project, and thus felt ownership and took responsibility for it. The work provided opportunities for them to develop the skills of analysis, development, planning, implementation, and evaluation that promote higher-order thinking. Community-based learning experiences like service-learning, in which students play a role in the programme design and implementation, can engage students in exercising these important and necessary skills (Eccles and Gootman, 2002).

Moving out of the comfort zone

In service-learning, students often are asked to venture into unfamiliar territory and interact with populations and in communities with which they may be unfamiliar. In these new environments, students are encouraged to reassess their assumptions and preconceived notions about issues and populations. The history students in Argentina had to confront officials in the nearby province to

present their case for reclaiming the water. The students in this service-learning experience had to muster the courage to venture to a new location, make their case to sceptical adults, and then assume the responsibility for following through on a commitment on which many hopes rested. Boundary-crossing activities that challenge young people cognitively, physically, and emotionally to move out of their comfort zones have been shown to enhance the development of expert cognition (Engestrom, Engestrom and Merja, 1995).

It is the combination of these pedagogical factors that characterises the essence of service-learning. Each factor has the potential to enhance student learning and promote healthy youth development. Academic service-learning can help to create a favourable learning environment for students and mitigate some of the student disaffection that many schools are facing. Through engagement in the community, students can begin to see how the content they are learning in the classroom has meaning and relevance to their lives outside school. Academic service-learning can also offer students new vistas onto communities and issues with which they may be unfamiliar. For many students, their worlds are circumscribed within the social networks and physical spaces with which they are most accustomed and comfortable. Service-learning can provide opportunities for students to venture into new communities and social circles to address issues to which they have not been previously exposed. Thus, by using the community as a resource for learning, academic service-learning extends the education of students beyond the confines of the school building while keeping learning anchored in the academic subject areas that all young people should master.

With academic service-learning, teachers should be prepared to give up some control over their classrooms as they empower their students to play an active role in the learning process. Teachers need also to take time to develop relationships with community agency representatives who will be important partners in the service-learning enterprise. These community agency representatives will often serve as co-educators, supervising and guiding students through various service and learning tasks, as well as assisting with assessments of student learning and development. For academic service-learning to be effective, teachers must see the classroom activities and the community service projects as inextricably linked. What students learn in the classroom prepares them to do high quality service in the community. In turn, the service activities that students conduct in the community help them gain a better understanding of the academic content to be learned in class.

As an instructional strategy, therefore, academic service-learning should be applied at opportune points in the curriculum when community-based experiences can add value to learning, development and overall educational experiences. Much of how service-learning is implemented depends ultimately on the cultural norms and educational structures present within the systems in

question. As service-learning becomes more prevalent in more countries, its character will evolve as national educational priorities and cultural contexts shape the ways in which it is applied in primary and secondary education.

The impacts of service-learning on students

Overall, the research on academic service-learning suggests that it can enhance students' academic, civic, personal, social, ethical and career development. In practice, academic service-learning has certain special features that are not offered through other active learning strategies. However, the extant research suggests that, by and large, these positive impacts may not be qualitatively different than those offered by other experientially-based pedagogies.

The first (English-language) research studies of service-learning published in the early 1980s were stimulated by the emergence of such practice within primary, secondary and higher education. Most such research has been and continues to be conducted in the United States, driven by the presence of research centres, funding and professional networks supporting the study of academic service-learning. The research agenda was originally focused on exploring service-learning's impact on participating students (or service-learners). Over the years, the agenda has gradually expanded to explore the impact on participating teachers, schools and communities, as well as factors that promote high quality service-learning practice and programme sustainability.

Most of the studies assessing the impacts on students have focused mostly on service-learning practice in tertiary or higher education, with more than 250 published studies now available. In contrast, there are fewer than 70 published service-learning impact studies on students enrolled in primary and secondary schools. (This review includes only those studies that have appeared in English-language publications.) Generally, however, the impacts reported from studies of higher education service-learning are parallel to those observed in studies conducted in primary and secondary school settings.

Over the years, sceptics and proponents alike have raised questions about the rigour and overall quality of service-learning research (Furco and Billig, 2002; Bailis and Melchior, 2003; Ziegert and McGoldrick, 2004; Reeb, 2006). For the most part, the body of research has not followed a logical line of inquiry. Rather, it can be best characterised as a mass of disparate studies which are not well-connected with each other or with previous research. Calls for more and better research that meets the standards of scientific inquiry have prompted the development of several research agendas, which have helped to build cogency in the conclusions of different investigations and have led to some important advances in the field (Giles and Eyer, 1998; Billig and Furco, 2002; *Service-Learning in Teacher Education International Research Affinity Group*, 2006).

Compared with the early studies in the field, today's investigations tend to employ more rigorous designs, make clearer ties to related research and prior service-learning studies, use more valid and reliable instruments, and employ more advanced and sophisticated analyses. Much more needs to be done, however, to raise the quality and quantity of service-learning research. Of the 67 published student impact studies based in primary and secondary education, fewer than half employed an experimental or quasi-experimental design with the others being outcome assessments in non-experimental conditions, analyses of existing data, or assessments from secondary data sources (e.g. teachers' reports of student outcomes). In many cases, the quality of the study is difficult to ascertain due to the lack of detail about the conceptual framework, research design, instrumentation and/or methodology. Such limitations notwithstanding and while more research is needed to confirm conclusions about the impacts of service-learning, the available evidence is allowing the picture of the potential impact on students to begin to come into focus.

Given that the practice of service-learning is built on classroom-based academic activities and civic-oriented community service, much of the research has focused on assessing impact on students' academic and civic development. The research summary presented below is based on a review of 55 investigations, most of which were conducted in primary and secondary schools.* As academic service-learning tends to be applied broadly as both an educational initiative and a community service programme in the United States, the primary outcomes from these studies are likely to have some relevance and generalisability to service-learning practices in other countries.

Academic Achievement and Educational Success

Much of the research on student impacts has centred on investigating the ways in which service-learning advances students' academic achievement and overall educational success. Akujobi and Simmons (1997), Klute and Billig (2002) and Kraft and Wheeler (2003) all found significantly higher improvements in reading and language arts among service-learning participants when compared to a comparable group of students not engaged in service-learning. In other quasi-experimental studies, researchers have noted similar positive academic impacts from service-learning participation in the areas of mathematics (Melchior, 1998; Melchior and Bailis, 2002; Davila and Mora, 2007), science (Klute and Billig, 2002; Davila and Mora, 2007) and

* The primary sources for 12 of the 67 studies cited in the service-learning literature were not accessible; the findings for these studies are not included in this research summary. The author wishes to acknowledge the contributions of Dr. Susan Root and Ms. Lisa Burton for their assistance in identifying and locating studies for this review.

social studies (Meyer, Billig and Hofschire, 2004; Davila and Mora, 2007). However, while the overall effect is statistically significant in all of these cases, the size of the effects has been generally small.

More robust outcomes have been found, however, in other areas of students' academic development. Several studies have revealed that, when compared with comparable students not engaged in such programmes, service-learning students maintain higher levels of motivation for learning (Conrad and Hedin, 1981; Melchior, 1995; Melchior, 1998; Scales *et al.*, 2000; Furco, 2002b; Hecht, 2002; Brown, Kim and Pinhas, 2005; Scales *et al.*, 2006), have improved student attendance (Follman and Muldoon, 1997; Melchior, 1998; Scales *et al.*, 2006), and have fewer disciplinary problems in the classroom (Calabrese and Schumer, 1986). Other studies reveal that service-learners maintain a stronger pursuit of good grades compared with students non-participants (Scales *et al.*, 2000; Ammon *et al.*, 2002), and have larger improvements in their academic marks and grade point averages (Laird and Black, 1999). Participants in these programmes have also reported learning more in service-learning classes than their other classes at school (Weiler *et al.*, 1998).

Beyond the classroom, several studies have found that students who participate in service-learning show stronger interest and engagement in school than comparable non-participating students (Melchior, 1995; Melchior, 1998), and are less likely to drop out of school (Bridgeland, Dilulio and Morison, 2006). In addition, students reported having a deeper commitment and connectedness to school work (Scales *et al.*, 2000; Scales *et al.*, 2006) because of their participation in service-learning. According to Scales *et al.* (2000), the number of hours of service-learning (31 hours or more), along with the amount and type of reflection and motivation to engage in community service and service-learning, predicted this outcome.

Although the research to date suggests that service-learning can have positive effects on a variety of academic areas, more research is needed to draw firmer conclusions. More experimental studies that include high quality service-learning programmes should produce additional insights into the various ways students learn and develop through such programmes. Moreover, we need trans-national studies conducted within and across different national contexts are needed to understand better how the local culture and social attitudes toward community involvement shape the service-learning experience and its impact on students.

Civic and citizenship development

Perhaps more than any other experiential or community-engaged learning pedagogy, academic service-learning has a strong civic dimension at its core. Its emphasis on community service establishes an inherent civic dimension that

promotes social responsibility and citizenship among participants. Findings from the handful of civic-focused research studies available suggest that participating in academic service-learning and related community-based learning experiences can enhance students' political knowledge and efficacy (Hamilton and Zeldin, 1987); political engagement (Morgan and Streb, 2001); self-efficacy for volunteering (Hamilton and Fenzel, 1988); attitudes towards government (Hamilton and Zeldin, 1987); participation in civic issues (Kahne and Sporte, 2008); likelihood to vote in the future (Hart, Donnelly, Youniss and Atkins, 2007); and likelihood to volunteer in the future (Hamilton and Fenzel, 1988).

Hart *et al.* (2007) assessed different types and levels of community service participation ("voluntary", "required", "mixed" and "no service") and found that all forms of community service were associated with elevated levels of voting. Their analyses revealed that while the frequency of community service in secondary school predicted future community service and engagement, the form this took (voluntary, required, mixed) did not. Voluntary community service in secondary school did predict future community involvement but mixed and required community service did not.

These results support those of a previous study which found that young adults who were required to participate in community service activities during their university studies were less likely to participate in community service five years after graduating than students who had participated voluntarily during their time at university (Stukas, Snyder and Clary, 1999). However, whether requiring community service or service-learning promotes positive civic (and academic) development remains to be seen. As some scholars have suggested, it is the overall quality and meaningful character of the experience that matters most (Billig, Root and Jesse, 2005). When students perceive service-learning as simply another school assignment to be completed, it can promote negative feelings for both the participating students and the members of the community (Covitt, 2002b).

Findings from the Citizenship Education Longitudinal Study (CELS) – a national study of England's required citizenship education programme for secondary school students – are relevant to these issues (Benton, Cleaver, Featherstone, Kerr, Lopes and Whitby, 2008). Here, the citizenship education curriculum has sought to engage students in community-based activities, including service-learning, to develop their civic capacities and skills (Annette, 2000). As the only large-scale, longitudinal, national study on student citizenship development (and one of the few non-U.S. studies on youth service), Benton *et al.* (2008) measured the extent to which students' civic attitudes changed over a five-year period. The findings reveal that over time, students came to feel less attached to their communities, saw fewer opportunities to participate actively in lessons, were less trusting of authority figures and felt less empowered (Benton *et al.*, 2008). The researchers report that despite

participating in the citizenship education curriculum, students maintain a narrow conception of civic engagement, focusing mostly on participation activities that require low levels of time (e.g. voting); there is no evidence that students have embraced broader notions of civic participation (e.g. volunteering or community service) that require more substantial commitments.

Programme quality has become an issue receiving some attention in recent studies. Not all service-learning is equal, and there are some elements that are fundamental to high quality service-learning practice. These elements include: sufficient duration and intensity of the experience, strong links between the service activities and the academic curriculum, collaborative and mutually beneficial partnerships with community members, meaningful service activities, student voice and choice, and ongoing reflection and analysis of the experience (Billig and Weah, 2008).

The importance of programme quality in service-learning was further addressed in a study by Billig, Root and Jesse (2005). The researchers used a battery of civic-focused measures that measure students' knowledge about government institutions and leaders, capacity to perform civic skills such as election campaigning, sense of belonging to the community, level of participation to meet community needs, feelings of making a difference and assuming adult roles, and current and future engagement in political discourse and activities. The researchers found that civic outcomes were generally more positive among students engaged in service-learning experiences of longer duration and whose teachers were more experienced with service-learning implementation. Students who participated in **direct service** (e.g. visiting seniors or tutoring) reported feeling more engaged with the community than did students participating in **indirect service** (e.g. fundraising). These findings support the results of an earlier study (Morgan and Streb, 2001) which found that service-learning is more likely to enhance self-concept, political engagement, and attitudes towards the elderly and the disabled when the experience contains a greater number of quality practice elements (e.g. service-learners perceive that they have real responsibilities, challenging tasks, as well as opportunities to plan the projects and make important decisions).

Other student outcomes

In addition to the academic and civic outcomes of academic service-learning, researchers have also explored various moral, vocational, personal, and social development outcomes. The findings from research in these areas suggest that service-learning as an instructional strategy can enhance the goals of other educational programmes, including values education, health promotion projects, drug abuse prevention initiatives, and youth leadership development activities. This research has helped to promote a broader range of service-learning forms beyond the core academic curriculum.

Several studies have found service-learning to be an effective instructional strategy for developing students' leadership capacity (Ladewig and Thomas, 1987; Weiler *et al.*, 1998; Boyd, 2001). In a study by Boyd (2001), students demonstrated significant increases in their capacity to make decisions and to engage in successful group work, based on a Leadership Life Skills Inventory. Boyd attributes these positive results to the principles of the community action programme, which involves students in assessing the needs of the community, planning the projects, practising decision-making and problem-solving, communicating with different audiences, and working in teams.

A number of recent studies have examined the relationship between service-learning and values development (Furco, Middaugh, Goss, Darche, Hwang and Tabernik, 2004; Berkowitz and Bier, 2005; Lovat and Toomey, 2007; Billig, Jesse, Brodersen and Grimley, 2008). Much of this research has grown out of concerns among proponents of values education that current approaches do not provide enough opportunities for students to practice in authentic settings the value traits they learn about from character education curricula (Lovat and Toomey, 2007). As Lovat and Toomey (2007) suggest, values education outcomes improve when the curriculum is tied to quality teaching practices, which include authentic, experiential learning opportunities.

Where national values education programmes are in operation, such as Australia and the United States, service-learning is being used to enhance the delivery of the values education curriculum. For example, Billig *et al.* (2008) assessed pre-post changes in values development among middle and secondary school students over a three-year period. The researchers compared the development of caring, altruism, citizenship, civic responsibility, persistence and respect (for self and others) between a group of students engaged in a character education curriculum that included service-learning activities and a group of students whose character education curriculum lacked this additional element. Their results support prior research findings that suggest that as young people mature, there is a gradual but steady diminution of values attainment (Furco *et al.*, 2004). Billig *et al.* (2008) found that over time, the students who participated in service-learning character education programmes had significantly less of a drop in value attainment than the students who did not. This suggests that service-learning helps students to retain their value (or character) assets as they mature.

Other research studies have found that service-learning and related community-engagement programmes can have positive impacts on students' self-esteem (Yates and Youniss, 1996; Johnson and Notah, 1999; Martin, Neal, Kielsmeier and Crossley, 2006); sexual behaviour (Kirby, 2001; O'Donnell *et al.*, 2002); substance use (Tebes, *et al.*, 2007); preparation for the workforce

(Yamauchi, Billig, Meyer and Hofschire, 2006); transitions to adulthood (Martin, Neal, Kielsmeier and Crossley, 2006); and preparation for higher education (Furco, 2002a). In most of these investigations unfortunately the researchers did not extend the discussion beyond the classrooms or communities that were studied and their generalisability is limited. And, because few of the studies have yet to be replicated, strong assertions about service-learning's impacts in these areas cannot be made at this time.

Looking to the future

Overall, academic service-learning offers a way to rethink the ways in which education is delivered to primary and secondary students. Beyond the pedagogical issues, the practice of service-learning also has implications for how the curriculum is structured, student outcomes are assessed, teachers are trained and schools are managed. For example, the societal issues that students address through service-learning are inherently interdisciplinary in nature. A project about removing toxins from a polluted stream can require students to apply their knowledge and skills in science, mathematics, language arts and even history. As in the service-learning class in Argentina, the activities not only engaged students in learning history, but also mathematics, science, government, language arts and a host of career-related skills. The discipline-focused, subject-matter organisation of the curriculum in many school systems is often not conducive to facilitating inherently interdisciplinary learning activities. Therefore, even with a growing number of studies pointing to positive outcomes from service-learning participation, its practice may continue to struggle for academic legitimacy in educational systems until they evolve enough to make room for more innovative approaches like service-learning.

As academic service-learning comes of age in more countries, more and better research will be needed to determine to what extent it offers true value-added for students as well as for the communities served. As more nations adopt such initiatives and/or implement different forms of national service, there will likely be demand for cross-national assessment of service-learning. A growing number of efforts are underway to expand the global reach of service-learning, including international research conferences (e.g. the annual conference hosted by the International Association for Research on Service-Learning and Community Engagement); multi-language websites focused on service-learning and community engagement (e.g. www.tufts.edu/talloiresnetwork/); and multi-national networks that support practitioners, such as *Centro Latinoamericano de Aprendizaje y Servicio Solidario (CLAYSS)* in South America and the new International Alliance for Academic Service-Learning. There are national and international efforts underway to prepare the next generation of primary and secondary school teachers with the skills they need

to practice academic service-learning effectively. Much of this work is conducted through the International Association for Service-Learning in Teacher Education, which hosts an international biennial conference of prospective service-learning educators and scholars in teacher education. One of this Association's research projects is the development of a survey to assess the status of service-learning in teacher education across the globe (Anderson, Furco and Root, 2009).

The future research agenda for service-learning will call for studies that employ larger randomly-selected samples, more advanced analyses, and longitudinal designs to assess long-term impacts. The agenda should include more analysis of the specific programmatic features that have positive impacts on different areas of student development. The service-learning field could also benefit from targeted analysis of the unique effects of service-learning compared with related experientially-focused pedagogies that use the community as a resource for learning. Lastly, more in-depth international assessments and comparisons are needed to assess the true scale and scope of service-learning practice across the globe. Academic service-learning is likely to continue to gain attention in different educational systems especially given the growing evidence of its generally positive outcomes. More rigorous and refined investigations will further advance the evidence base and more precisely ascertain the true strengths and limitations of service-learning and related instructional pedagogies.

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