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An Assessment of Elementary School Service-Learning Teaching Methods: Using Service-Learning Goals

by Clifford Akujobi and Robert Simmons

The purpose of this study is to examine the progress and the difficulties teachers encounter in implementing service-learning programs in an urban elementary school. The study characterizes each service-learning project using the Kahne and Westheimer (1996) service-learning goals matrix. Based on our investigation, most of the service-learning projects at the upper elementary level emphasize emotional intelligence such as character building, social reconstruction, and additive experience. In contrast, service-learning projects at the lower elementary level focused more on social reconstruction and academic knowledge. While most service-learning projects at the upper levels create learning opportunities for students, teachers rarely challenged students' thinking abilities, falling back to traditional teaching methods to do so. In sum, most service-learning projects promoted emotional intelligence; whereas very few projects challenged students' higher order thinking skills or provided transformative experience. However, standardized test scores show students who participated in service-learning programs did score higher than their counterparts in traditional classrooms.

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Much has been said about the 21st century and the Information Age. In his 1997 State of the Union address, President Clinton eloquently laid out the challenges that face the nation and American public schools in particular. While prescribing antidotes to the ills of public education, President Clinton quickly acknowledged the problems and difficulties public schools face in meeting the demanding needs of the next century and the challenges of the Information Age. In the last decade, proponents of educational reforms have suggested various ways to prepare schools to meet these anticipated challenges of the next century. Central to this call for change is a paradigm shift — from failing traditional teaching methods to more creative approaches that address the needs of all

students. The new educational initiatives want educators, school administrators, teachers, parents and communities to seek new ways of educating students, especially in urban public schools. (see Darling-Hammond, 1997; Putnam & Borko, in press; Simmons, 1994)

Throughout human history, every generation has called for one type of school reform or another, or demanded a school transformation that addressed their concerns. It is arguable that the philosophies driving these various school reforms have differed, but the overall goal is always the same: good education and responsible citizenship. As we approach the 21st century, urban communities and the general public are increasingly demanding more from

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teachers. The mounting pressures have forced some elementary school teachers to depart from their traditional teaching methods to seek alternatives that meet school district mandates, standardized test scores of the state, skills performance of the business industry, anxieties of parents, and the diverse needs of students from different backgrounds. One such teaching alternative is service-learning.

It is not our [authors'] intent to condemn or diminish the importance of traditional teaching methods, rather we wish to support alternative teaching methods that appeal to all students from diverse cultural, social, and economic backgrounds. Putnam and Borko (in press) summarized Anderson's contrasting views that underlie the teaching and learning ideas espoused by reformers and traditional teaching methods. Their summary highlights five dimensions that are useful for contrasting teaching and learning ideas. These include academic goals, teacher's role, student's role, academic tasks, and learning environment. Putnam and Borko (in press) claim in reform-oriented classrooms, academic goals should "focus on the development of 'expertise' that is demonstrated through strategic and flexible use of knowledge versus content-specific application of skills and recall of facts" — i.e. from delivery of knowledge mode to facilitating of learning mode. The teacher's most important role is seen as "mediating learning as it is constructed by students" rather than as "conveying information to students." In this new learning environment, students are responsible for their own learning by becoming active participants, rather than passive receptors of information. Academic tasks require students to "define and represent problems and transform existing knowledge in one of many possible solutions, rather than serving as sites for application of algorithmic procedures to problems with single correct answers." Finally, a learning environment should accept failure as part of learning, and other students should be viewed as resources for learning, rather than "conditions in which failure has social consequences, the source of cognitive regulation is external to the student, and other students are viewed as hindrances to

learning." For a thorough review see Putnam & Borko (in press).

What is Service Learning?

According to Jim, (the principal of the elementary school being studied), service-learning is "a descriptive label that identifies programs that blend in community service with classroom learning goals." In other words, service-learning means 'caring' about students' authentic learning environment. Teachers who are integrating service into their curriculum believe in what Noddings (1988) describes as orientation toward care. Studies have documented that teachers guided by an ethic of care tend to be more concerned about students' well being than their cognitive development (Ladson-Billings, 1995; Root, 1996). For example, Ladson-Billings (1995) studied caring teachers with similar backgrounds and made the following observation:

Teachers were not demonstrative or affectionate toward the students, instead, their common thread of caring was their concern for the implications their work had on their students' lives, the welfare of the community, and unjust social arrangements. Thus, . . . the teachers spoke of the import of their work for preparing the students for confronting inequitable and undemocratic social structures. (p. 474)

Furthermore, Goleman (1995) emphasized the importance of teachers modeling emotional intelligence through caring and respectful interactions with young children. He argued that emotional intelligence is the bedrock upon which to build other knowledge. Teachers at this school seem to concur with Goleman.

This study discusses teachers' perceptions about the merits of service-learning and the difficulties of implementing effective service-learning. The study also demonstrates that students who participate in service-learning score higher in standardized tests. A quick review of the school background will help inform the reader of the issues at stake.

Background

Thirty years ago, this elementary school small community, located in southeast Michigan, was a prosperous middle class

neighborhood (fairly homogeneous) that enjoyed the boom of the automotive industries. The principal, who has for the last 18 years steered the leadership of the school and has lived in this community for more than 25 years, explained that dramatic demographic changes of the school community were due primarily to the closing of most of the automotive assembly plants. The school is a pre-kindergarten to sixth grade with a population of 426 students mostly drawn from the federal low-income housing project located in the community. While 80 percent of the students are on free lunch programs, 82 percent are from single parent homes. The school has 18 classroom teachers, four inclusion teachers, four paraprofessionals, and one part-time community education agent.

The school community has been fraught with many of the common social problems that are often found in low-income families: teenage pregnancy, single parent households, alcohol and drug abuses, to mention a few. Faced with such extreme youth at risk, teachers realized that students' behavior in the school was going to be a problem. Teachers also noted that with such endemic conditions, "detention, in-school suspensions, behavioral contracts, etc." became only stop gap measures and not permanent solutions to perennial problems. In search of practical solutions, teachers agreed to go beyond the scope of their duties and contractual obligations to find better ways of serving the diverse needs of their students.

Drawing on teachers' views, traditional teaching methods seem to have fallen short of meeting the needs of their much diverse students. Veteran teachers of this school indicate that traditional methods are becoming less effective as the community demography changes, and as the student population becomes increasingly more diverse. The declining middle class or homogenous community and the associated disciplinary problems that students bring to school are part of the challenges this school faces. Despite some of the significant improvements teachers made in the past, there has been no significant academic achievement to show for it. Teachers' frustrations support Karp's (1997) argument that since schools are mere reflections of the society, poor schools will thrive only when the larger

society genuinely deals with the political, racial, social, and economic inequities that are deeply rooted within the society. Coulton and Pandey (1992) discussed in detail the adverse effects of geographic concentration of poverty and the risk it poses to children in urban neighborhoods. They argue that concentration of the poor in central portions of the city further isolates the less privileged from opportunity and mainstream ways of life, and exposes them to high levels of adverse social and physical conditions that compound their economic difficulties. They state, "the effect of these circumstances on children and youth may be particularly harmful." (p. 239)

In reaction to the challenges facing teachers, in 1992, the school adopted service-learning as a powerful instructional tool based on its perceived strengths and relevance to the needs of the school. Though not a new concept by any means, service-learning is gradually receiving increased attention, particularly among urban community school teachers who see the benefits of reaching out to the community. The school's leadership and teachers for the last three years have tried to develop a sustained learning environment and promote community involvement through service-learning. So far, teachers and students alike have realized that service-learning is not another "fad" or "add-on" but an education of the heart, as well as the mind and body. (Simons, 1994) Teachers perceive that service-learning has powerfully addressed a variety of interconnected issues of major importance both to the community and to the students. They believe that students are gaining more academically through service-learning as evidenced in classroom activities and by a drastic cut in absenteeism and tardiness. Students are more meaningfully engaged with each other and actively involved in classroom discourse. According to the teachers we interviewed, service-learning is enhancing the civic responsibilities of the students, increasing their attendance rate, empowering them, improving their self-esteem, and motivating the students to engage in relevant and meaningful learning opportunities. For example, when one of the teachers, Jeff, was asked, "how do you think service-learning has affected students learning?" he said:

I think it has a big impact. I truly believe it has. Another young man [his student] was reading a book about Thanksgiving and it sparked an interest into the whole class. Not only to the whole class but with him to do a 'Can drive.' It just generated thoughts and interests in our classroom. We decided to do a Can drive just with our class and we took it to the Shelter. I had him take it [the collected contribution from the Can drive] with me and a couple of other students and you see that young man today . . . just a whole new different person altogether. He knows he's worth something in the community and not what people and his peers say about him.

Conceptual Framework

In order to guide and make sense of teachers' responses, we adapted the Kahne & Westheimer (1996) service-learning goals matrix, as shown in Figure 1.

They offer the premise that the difference between change and charity distinguishes the moral, political, and intellectual goals of service-learning practitioners. They argue that the service-learning concept geared toward charity fosters *giving, civic duty, and additive experience* under moral, political, and intellectual domains, respectively. In contrast, proponents of change promote *care, social reconstruction, and transformative experience*. According to them, relationships that emphasize charity are regarded as *giving*, but deepened relationships that forge new connections are called *caring*. In the political domain, those that focus primarily on charity believe that to be "properly educated in a democracy, students must undergo experiences that demonstrate the value of altruism and the dangers of exclusive self-interest." They stress "the importance of

civic duty and the need for responsive citizens." (p. 595) However, those who uphold the notion of change make different assumptions that call for a "curriculum that emphasizes critical reflection about social policies and conditions, the acquisition of skills of political participation, and the formation of social bonds." (p. 595) Finally, in the intellectual domain, service-learning should foster "authentic, experienced-based learning opportunities, motivate students, and promote their higher order thinking skills," rather than serve as what Putnam and Borko (in press) described earlier as "sites for application of algorithmic procedures to problems with a single correct answer."

We modified the model into a continuum without the two broad categories of 'Charity and Change.' Our "Modified Service-Learning Goals" include 'Giving' — 'Caring' — 'Civic Duty' — 'Social Reconstruction' — 'Additive Experience' — 'Transformative Experience.' This modification was necessary because the study focused more on teachers' perceptions about service-learning projects and less on the implications of the outcomes — most of the teachers have not developed empirical methods or any verifiable methods of measuring the supposed outcomes of service-learning. Even at the national level, lack of empirical evidence available that sorts out competing claims about service-learning, especially at the elementary level, is a major concern to advocates of service-learning and school reform. Understanding how service-learning promotes student's emotional intelligence and increases his/her academic engagement and learning has interesting ramifications for fundamental concerns facing educational policy and practice.

In addition, service-learning is a new idea and teachers are still developing the skills of exploring better ways of crafting

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Figure 1: Service-Learning Goals

Charity	Moral Giving	Political Civic duty	Intellectual Additive experience
Change	Caring	Social reconstruction	Transformative experience

Assessment

—continued

productive/effective service-learning projects. For instance, most of them have only implemented one or are still implementing their first service-learning project. As a result, it seems too premature to compare the projects between 'Change and Charity.' Moreover, it is difficult to draw a fine line between these domains, for instance, between giving and caring. Nonetheless, Kahne and Westheimer's (1996) service-learning goals matrix is a good indicator that should guide teachers' future service-learning projects. This is important because it may serve as a "conceptual map" during planning and design, and may also serve as a barometer for measuring learning outcomes after the implementation of any service-learning project. The revised model is neither a representation of arithmetic progression, nor is it fixed or rigid; rather, it represents different domains. After all, life experiences are intertwined and not discrete.

The classification of service-learning projects on the continuum is arbitrary and only designed as an analytical tool for investigation. It is not our intent to diminish the importance of any experience gained by students through any service-learning projects; they are all rich and meaningful in their own right. Rather, our intent is to help readers understand the type of experience that is commonly associated with a particular service-learning project. Also, the boundaries (if any) among the domains are superficial and blurred since the service-learning experience is not discrete and the degree of its meaning varies from student to student. The conceptual framework model is merely hypothetical, since in some service-learning projects, students pick up new ideas from each domain on the continuum. This is why compartmentalizing these domains becomes almost meaningless.

Method

Much has been written about the general success of service-learning programs, but few studies have focused on how teachers design, implement, and evaluate service-learning programs in their classrooms. This study attempts to look more closely at teachers' beliefs and perceptions of service-learning, and how they plan, imple-

ment, and evaluate service-learning programs in their classrooms. We also discuss why service-learning is (at this time) not yet producing the expected results or meeting the learning needs of all the students or that of the community.

In an attempt to answer the above question, we reviewed all completed service-learning projects and observed five classrooms for one academic year. We interacted with all the teachers involved with service-learning over this period but focused more closely on five teachers and two administrators. We interviewed five teachers (Sharon, Jeff, Rhonda, Kathy and Carol) and two administrators (Donna and Jim). All names are pseudonyms. See Appendix A for the data collection guide. We observed students engaged in service-learning activities both inside and outside their classrooms. The interview was tape-recorded with field notes taken. The minutes of service-learning committee meetings were documented and reviewed, as well. Finally, we compared the performance of fourth graders who participated in service-learning projects in the 1996 Michigan Educational Assessment Program (MEAP) test with other fourth graders in traditional (non service-learning) classrooms to evaluate the academic merit of service-learning. In keeping with the conceptual framework, we highlight our findings around the service-learning goals.

Findings

The study reveals that all service-learning projects in this school cover two major areas: emotional intelligence and academic knowledge. Goleman (1995) described emotional intelligence as a significant moral part of child development and an important foundation for academic achievement. Goleman listed some of the attributes that promote emotional intelligence, such as stress management, giving, caring, and social reconstruction. Most of the teachers started with projects crafted around civic instructions or social studies that emphasized some of the attributes of emotional intelligence, and then progressed to more complex projects that challenged students' abilities or academic knowledge. Teachers' initial involvement with service-learning is due in part to moral obligations and subsequently due to the success of the projects and benefits to the students.

The authors confirmed that despite most of the teachers' primary goal of producing high achieving students, service-learning was largely used to sharpen students' inter- and intra-personal skills on the one hand, and to create a social learning climate on the other. In our view, teacher's overarching conception of service-learning seems to impede their students' learning outcomes. Overarching conception serves as a "conceptual map for making judgments and decisions about learning goals, instructional strategies, assignments, curricular materials, and evaluation of student learning." (Putnam et al., 1992) For instance, one of the teachers, Sharon, believes

socialism [social interaction] is important in this school. Being able to be a social person and getting along with people in the world, that's a very sensitive subject for kids to get along. In service learning, they learned how to get along with each other.

In creating conducive learning environments, Jeff states,

service-learning is not set, we basically mold it to the students' needs and interests and develop constructive activities for them to work on. From there we can focus on some academic area that would enhance their knowledge and performance.

Another finding uncovered was that teachers used service-learning strategies more on what they want to reform, rather than on what they intend to transform. Teachers who intend to use service-learning as a tool to foster what Darling-Hammond (1997) describes as "meaningful learning," end up using it as a tool to control student's behavior in order to make him/her conform to the 'traditional standard' classroom practice. Teachers argue that for any meaningful learning to occur, the learning environment must be suitable. In this instance, service-learning is used to create a condition (reform the students) that allows teachers to construct experiences that support what Darling-Hammond contends allow students to "confront powerful ideas whole," and "create bridges between the very different experiences of individual learners and the common curriculum goal." (p. 39) Furthermore, Darling-Hammond argues that teachers must

"use a variety of approaches to build on the conceptions, cultures, interests, motivations, and learning modes of their students." (p. 39) Most of the teachers observed see service-learning's most important role as a disciplinary control mechanism, that fosters respect and discipline, rather than teaching new concepts or transforming students' experiences. Given the nature and type of students they have, the teachers argue that service-learning is a powerful tool for character building and productive learning. For instance, teachers believe that calming students' impulsiveness increases their attention span and prepares them for any academic engagement. Teachers, who believe that the traditional classroom engaged less the attention of unmotivated students, see service-learning as a perfect teaching/learning strategy. In such classrooms, service-learning projects have components that tend to engage students' attention more than engaging their minds. Such projects hardly serve the needs of the community. This was common with the upper classes where students are typically more disruptive. Such projects include: Global Volunteer Day, Many Pages for Young Ages, Clara Barton Nursing Home, The Soup Kitchen, and Save A Tree/Environmental Recycling.

Teachers of the lower elementary classes where discipline is not a major problem or concern are involved in projects that minimize the service component but create an enjoyable social environment for classroom interactions. Alternately, teachers of the upper elementary classes design projects that emphasize service in order to engage students or minimize absenteeism, tardiness and disruptive behavior. Though these experiences are rich and meaningful in their own right, they determine where teachers place these experiences on the service-learning continuum.

Service-learning projects of the lower elementary classes are mostly classroom bound, but in the upper classes they are often outside the classroom. Since upper elementary level class students are interested in outdoor activities that cut down on what they consider as "boring tedious classroom activities," teachers neatly integrate learning instruction with such outdoor activities that students eventually carry over into the classroom. In all, teach-

ers attempt to create a new learning environment that departs from the traditional classroom.

In contrast, lower elementary classes have projects that are classroom based and more academically focused, such as the "French Peer Educational and Cultural Exchange" project and the "Senior Citizen Tutor Program." In the French project, third graders of this school have the opportunity to be transported to a middle and high school for one hour a week to be taught French by middle and high school students. It cuts across the K-12 three-tier educational system. The collaboration efforts forced teachers from the elementary, middle and high schools to reach beyond their organizations and build bridges with individuals and groups not previously connected with the school, for the students' benefits. For example, one of the school's partnerships, Electronic Data Systems (EDS) continued to work with the French group even after the official lifespan of the project was over. The EDS staff visit the elementary school weekly to teach both teachers and students French and offer other instructional supports to the school community. Service-learning has not only provided opportunities for these schools to redefine how they work together, but also places strong emphasis on students' input and participation. This collaboration has created friendly and symbiotic relationships between students from three different segments of the school system, and has also empowered the older students with great passion of caring for the younger ones.

One classic project from the upper level that covered all aspects of the continuum is the Penny Chase. The Penny Chase is a fundraising project that emerged from class brainstorming. In a fourth grade social studies class, the teacher drew attention to the increasing day-to-day problems within the community. After several meetings of the minds and discussions of what students cared about, one of the students suggested that the school or the class should raise some funds to help the survivors of such unfortunate events. The fundraising project was named by the students "The Penny Chase." The students' goal was to raise 100,000 pennies. Twenty-five percent of the money collected was set aside as the school/community emergency fund for future incidents.

The remaining 75 percent was evenly distributed to the homeless shelter, by the class with the highest contribution and by the class that initiated the project, respectively. Surprisingly, the project took a dramatic turn as the students showed enthusiasm and took an entrepreneurial spirit in expanding the project beyond the classroom to becoming a school-wide fundraising project.

The fourth grade teacher carefully tied the fundraising activity into the academic curriculum and created self-directed and reflective learning opportunities. Through these service-learning activities, students are exposed to some important life fields of knowledge such as advertising, marketing and promotions, database management, and accounting and banking concepts. Simple statistics, mathematics skills, pie charts, graphs and computers are used to track contributions and percentage contribution made by each class. Students work in groups, learn from others' talents, and explore important questions that are relevant to them.

The class invited guest speakers from the school's partnerships: Citizen Bank, K-Mart, and EDS to discuss and share information about investment procedures, banking transactions, and computer support systems. In addition, Citizen Bank established a mini banking transaction for the students. The bank is managed and run by students. The K-Mart Store set up a prototype, run by students, while EDS donated a computer lab to facilitate students' computer skills. These big investors have consistently supported the efforts of the teachers and students who show interest in experiential education and have broadened educational horizons.

Several lessons from the Penny Chase service-learning activities are directly relevant to the reforms advocated by different school reform groups. The brilliant performance of the students and success of this project stimulated teachers' and students' interests in exploring other meaningful service-learning projects that sustained the interest of students and provided other powerful learning opportunities. The Penny Chase project ties into the academic program. Students learned mathematics through record keeping, accounting, graphing/pictograph, estimations, banking/saving, and percent-

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ages. Under social studies, the teacher and students explored the history of money, considered career opportunities associated with the banking industry, and researched the role of money in economic development and its use as a measuring index for socioeconomic status. The teacher covered a variety of subjects such as science and language arts, as well as enrichment activities.

According to the teacher's responses, service-learning has contributed immensely in changing students' attitudes towards class work and general response to class instruction. Tardiness, fighting, recalcitrant and disruptive behaviors are highly minimized when students are meaningfully engaged and their robust energies are properly channeled to productive learning. All teachers confirm that service-learning boosts students' self-esteem and leadership skills. For example, Sharon describes her new classroom as this:

Service-learning promotes self-esteem, intellectualism, and it stimulates learning. My students now want to go to the Middle School to take a class. They never had the interest before I introduced this to them. They learned how to deal with peers and grownups. Adults respect them (not that they don't learn this in a regular classroom) but it is a different situation when you have several people working together and it is a social structure they don't get in a regular classroom.

While it motivates the teachers, it also challenges and engages the students. Kathy describes her experience as

a tool for learning. It makes the day go by faster. It is exciting once you get started. It is difficult actually when you're first getting the project together. It is empowering students, but it is a way to get your [the teacher] energy back up, . . . motivation back up. . . It is more real life learning because that's the buzz word that they are using 'Real world,' real life application.

Heff simply summarized service-learning as "very motivating especially after seeing the great impact it has on students" in terms of participation and accomplish-

ment. The enthusiasm and commitment expressed by teachers who are pioneering service-learning projects reinforce that service-learning empowers students on the one hand, and simultaneously motivates teachers on the other.

Teachers are constantly amazed at students' reflections at the end of every project. They come up with shocking but intriguing experiences that touch or reinforce values needed for democratic society, or raise questions that confront teachers' knowledge and beliefs. For example, a student writes after shoveling the walkway for the elderly that "I don't know why I have not done this all along because I remember an old man falling on a slippery day last winter." The teacher added, "You see some sense of passion in the eyes of the student." A project that was designed to teach civic duty/responsibility, turns out to teach empathy, caring and giving.

Broadly speaking, students feel connected after every service-learning experience because of their contributions to the community or through their voices in decision making within the classroom. Observing students' engagement in service-learning projects and going through their journal entries during reflections, we noted that students cover a broad array of experiences that range from being sympathetic to posing challenging questions. Based on the few service-learning projects we reviewed and observed, and the nature of questions students pose in class, it is safe to say that students confront their own beliefs through meaningful service-learning projects. What is not clear, however, is whether teachers use such learning opportunities to develop their critical thinking skills. This raises the question of what teachers know and mean about critical thinking and problem solving skills. What also seems completely absent in most of the service-learning projects is community initial input in determining what is important to the community itself. Definitely, there are pros and cons and logistical problems when involving the community at the onset of any project, but it seems the school is prescribing what it considers best for the community. For example, donating books to young mothers who may or may not need them (one of the primary goals of Many Pages for Young Ages service-learning project) could be a waste of

time, or what Kahne and Westheimer (1996) call 'giving' instead of 'caring.'

Quantitative Data

Use of quantitative data to assess the academic achievement of students who participated in service-learning or experiential education has been lacking in most service-learning programs (Scales & Blythe, 1997). There is scant hard core data (quantitative data) especially at the elementary level that demonstrate that service-learning is contributing to students' academic achievement and intellectual development. Every fall, the Michigan Educational Assessment Program (MEAP) test is administered to all Michigan fourth and seventh graders in reading and mathematics, while the science test is given to fifth and eighth grade students in the spring. The current fourth graders were in five classrooms in their third grade: Two classrooms (C & D) labeled as group 1 in this study, participated in service-learning programs, and the other three classrooms (A, B, & E), identified as group 2, did not. The 1996 MEAP score shows that the two classrooms that participated in service-learning programs scored higher in reading story, information, and mathematics than the other three classrooms. Analysis of variance shows that group 1 (service-learning group) recorded significant difference in reading information and mathematics ($P < 0.0243$ & $P < 0.0011$ respectively). The analysis recorded no statistical significance in reading story between the service-learning classrooms and the traditional classrooms, even though the service-learning group has higher mean than the control group. The scores are tabulated in Table 1.

In addition, there was an increase in general performance from 1995 to 1996. This result suggests that students benefit more as service-learning continues to touch as many classrooms as possible, and teachers become increasingly knowledgeable in service-learning programs. For example, Table 2 compares the 1995 and 1996 scores.

In 1996, there was a 14.9% increase in the number of students scoring satisfactorily, a 12.7% decrease in the moderate category, and a 2.1% decrease in the number of students doing poorly. Based on the trend of events, we speculate that the more service-learning is embraced school wide,

Table 1: 1996 MEAP Score — 4th Grade

Group*	MEAP Mean Score per Group	
	1	2
Class Size	31.0	33.0
Reading Story Mean	305.3	294.8
Reading Information Mean	289.2	277.5
Mathematics Mean	514.7	494.8

* Group 1 represents two classrooms that participated in service-learning, and Group 2 represents three classrooms that did not participate.

General information about the MEAP in Reading (story & information) is as follows:

- Satisfactory means a student who scores = > 300 in both story & information
- Moderate means a student who scores = > 300 in either story or information
- Low means a student who scores < 300 in both reading story and reading information.

General information about the MEAP in Mathematics is as follows:

- = >520 Satisfactory
- = >500 to = <519 Moderate
- = <499 Low

the more the students' intellectual development improves. This may be true since more teachers are getting involved with service-learning, and the more experienced teachers in service-learning are becoming "teacher-action researchers." This new development about teacher action research will better equip teachers to design higher quality service-learning projects and effective ways of measuring both emotional and academic outcomes.

Discussion

Patterns of service-learning projects observed in this study lay more emphasis on emotional intelligence and less on intellectual development. However, teachers' efforts to integrate service-learning activities into the curriculum hold great potential, and show willingness to either assume or to re-examine their future instructional activities. Part of the shifts include, according to the teachers, moving away from easy-to-administer service-learning activities to more complex projects that will challenge students' abilities. This study also helps teachers to reflect deeply on their service-learning activities as well. When they were asked to provide concrete examples that demonstrate students' academic achievement, most of them could

not, only a few struggled to mention one or two. Consequently, the need for more professional development such as 'teacher action' research is highly recommended.

The success mentioned earlier combined with enthusiasm of teachers and devotedness and support of school leadership are sound reasons to have confidence that service-learning will increasingly be recognized as a successful approach to improving urban schools. The principal's interest, participation, support and cooperation are noteworthy. The majority of teachers involved with service-learning in this school was influenced by the principal's shared vision, beliefs, and support. For instance, Sharon started using service-learning pedagogy because the principal was the first to mention the ideas and also supported her efforts every time she needed help. She said, "I was turned on to it by the principal and two other teachers who are involved in service-learning." For Jeff, the principal is a very strong support. When Jeff was asked to define service-learning, he said, "my principal has the best way of describing service-learning . . . as a descriptive way that provides an educational opportunity tied into the community." Carol also mentioned that she was introduced to service-learning by the principal, when she explained, "It

**Table 2:
1995 vs. 1996
Students'
Percentage Score**

A comparison of 4th graders overall percentage score in each category in 1995 and 1996

	1995	1996
Satisfactory	14.8	29.7
Moderate	39.3	26.6
Low	45.9	43.8

was brought to everybody's attention by the principal when certain people came here with the idea." Finally, the principal believes and supports teachers' collaboration efforts, team teaching, and interdisciplinary instructional methods. He does this by providing flexible scheduling for school activities, securing liability coverage for the school and teachers, especially coverage for transportation, and encouraging teachers' release time to plan, implement, and evaluate service-learning programs. He is supportive because he believes that teachers must be creative in order to attend to the special needs of the students. He explains,

Service-learning is different from traditional methods. It is different because you have to be creative in taking the basic curriculum of the district — the core curriculum, the lesson plans and so forth and revise them to meet the needs of the boys and girls in the classroom. You have to be creative in order to be able to do that. We can't just take a traditional approach, follow the lesson plans from day one, follow the textbook from the opening to page 360 and say this is an instruction program. You have to

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—continued

modify your program. You have to modify your curriculum yourself to reach the kids based on their needs and their capabilities of doing things.

We do, however, believe a word of caution must be exercised in generalizing the results of the service-learning activities described here. There is a lumping together of good and bad service-learning programs, traditional methods, and authentic instruction that may have influenced the outcomes of this study. Conclusions are based heavily on five teachers' perceptions and beliefs about service-learning in one school, and students' views are not part of the results. Also, despite teachers' enthusiasm and motivation, almost all the teachers still see service-learning activities as isolated projects that are periodically injected into the traditional classroom. Service-learning has not completely changed teachers' traditional mode of teaching, but has confronted their existing beliefs about teaching and learning. This tension is visible, especially when students pose some challenging questions or when teachers run into unfamiliar territory.

Teachers credit service-learning as being responsible for the different outcomes between lower and upper level, although service-learning was not designed differently between the two. What is implicit is that the nature of the classroom climate plays an important role, since students' behavior exerts a powerful influence on the changes teachers make in practice. Also, the upper elementary level classes have more disciplinary problems to deal with, due to class size (average of 28), age of students, and their existing conceptions. In contrast, the lower level classes with smaller class size (17) and younger students allow teachers to use service-learning projects more effectively.

It is important to note that standardized achievement tests are inadequate instruments for measuring students' thinking skills, problem-solving abilities, creativity, emotional intelligence, and teamwork. Since student's achievement depends upon instructional methods, among other factors, teachers should design high quality service-learning activities that occupy students throughout the

school year. One of the basic guidelines of transforming school is to encourage teachers to make decisions that benefit students, while holding themselves and others accountable for results. One can only imagine the potential disaster, if teachers, acting in good faith, were to design sporadic service-learning activities that emphasize only giving, charity, and care without increasing their thinking skills and problem-solving abilities, or transforming their experiences. The goal of service-learning will then be seriously flawed. Service-learning if properly implemented has a powerful potential of creating "bridges between the very different experiences of individual learners and the common curriculum goal," as espoused by Darling-Hammond (1997).

Although much has been achieved in this school using service-learning teaching methods, there are no substantive or scientific data to support teachers' claims or to show causal relationship. In the future, we recommend that when teachers are gathering information to illustrate service-learning progress, a proper documentation of a wide variety of information about the effects of service-learning activities will help answer a range of questions, such as student achievement scores and dropout and truancy rates that are pertinent to the community. Without public understanding, support, and participation, service-learning goals will be difficult, if not impossible to achieve, especially in urban public schools. In sum, the additional quantitative data suggest that even if service-learning is not solely responsible for the students' overall performance, it is definitely a catalyst for change — laying a solid foundation for a connected curriculum and a cohesive learning community.

Appendix A

Data Collection Guide¹

The interview guide is comprehensive and detailed. The questions stated below are lead questions. There are in-depth follow-up questions (probes) based on each response.

Professional Background

How long have you been at this school? How long have you been teaching at the elementary level? What grade level do you

teach? Have you always taught at this grade level? Could you describe your educational background? (e.g., highest degree, subject area concentration). What is your personal philosophy about teaching? What do you want the students to retain most from having been taught by you? Why did you decide to become a teacher? If you had to do it over again, would you have become a teacher? What makes teaching rewarding to you? Has the school changed in recent years? (If so, how? Explore each change. The question could help us to understand if the school is undergoing improvement or decline and why). Have you worked or had any special assignment in this community before? (If yes/no probe further). Has your involvement in the community affected your work? In what ways? (It might have affected the teacher in a positive way — improved relationship or negative way — added additional burdens). Do you have other responsibilities in the school other than teaching, for example, lunch program, coaching job, science club, 4-H club, girls' club, etc.? Do you have extra income besides teaching? What kind of job?

Administration

Does the principal involve the teachers in participating in decisions in the school? If so, how? In what areas? Has it always been that way? Which areas of school life does the principal pay the greatest attention to? Why? Any examples? How do you generally feel about the administration of the school? Are you satisfied? Dissatisfied? Examples? What is the relationship between the principal and teachers? Between teachers? Between teachers and students? Between students and students? Has any of the relationships changed? If yes, why? Do you exchange ideas with the principal or other teachers about problems of teaching and learning? How do you plan for each day? What kinds of plan do you develop? What are your greatest headaches and how do you get support?

Questions on Service-Learning

Do you use s/l methodology in your classroom? Why do you use such method or why not? For how long have you been using this method in teaching? Where did you learn about this teaching method? What is your definition of s/l? Is it different from other teaching methods? In what

ways and to what extent is it different? When and how do you use s/l in your classroom? What effect does it have on the following:

- teaching
- learning
- curriculum
- student-student interaction/relationship
- student-teacher interaction/relationship
- motivation
- overall student achievement
- cost in terms of time, materials, personnel, school and district

Do you feel satisfied using s/l as an effective method for teaching? What are the reactions (comments) of other teachers who are not using this method in their classrooms? What are the difficulties (if any) of using s/l in teaching? Do your students know what s/l is all about? Have they mentioned s/l to their parents? If yes, have you received any feedback from their parents? Would you recommend s/l to a student-teacher, experienced teacher, novice, principal or administrator? What will you tell them about s/l? For teachers who are interested in s/l, what do they need to have in order to use s/l effectively? In what subject area is s/l method most effective?

Specific Example — Let us talk about reading, math, (or any subject-matter) in your classroom. *The intent here is to find out how teachers use s/l as a teaching method, also to see whether the answers/story corroborate the first part of the interview, class observation, and subsequent interviews — trying to find a pattern.*

- What is the top priority of the school when it comes to reading?
- Where (or how) does reading fit into s/l? What are the strengths/weaknesses of reading?
- What are your goals in reading this school year? Who made up these goals for you? How do you accomplish these goals using s/l?
- Who coordinates the reading program? What role does the principal of the school play in the reading program? What is the role of the reading specialist in the reading program?
- How many other personnel assist in the reading program? What are their roles?
- How often do you interact or meet

with a reading specialist or reading aid? What is the purpose of the meeting? And how useful is such a meeting?

- What type of information do you expect from the reading specialist/aid?
- Are students ever taken out of the class to attend special programs in reading?
- What type of background do your students come from? How important is this for achieving your goals and the success of the school?
- How easy/difficult is it for you to determine how much each student will gain in reading?
- How much time is spent on reading instruction each day?
- How much time is spent on reading group?
- Does every student receive the same homework assignment? Why or why not?
- How are your students grouped for reading? What type of output do you expect from the group?
- How often are students re-grouped for instruction each year? What is the yardstick for re-grouping students?
- What type of resources are available for students performing one /or two years below grade level?

Pre-Observation

Could you tell me a little about what you are planning to do when I observe your class? What will your students be doing in the class I intend to observe? Is it different from what they do when you are not using s/l? Is there anything in particular you want me to observe? What might upset your plan? Do you expect all your students to be doing the same thing?

Observation form (mostly personal notes) — Describe the class, note the class size, arrangement (whether students are in groups or not). If students are in group, what is happening in the groups?

- Narrative description: describe the lesson, the topic and the tasks.
- Instruction and instructional materials: the type of instruction that is going on in the classroom; and materials used and how they are used. Is it consistent with the description in the primary interview?
- Reading instruction: the goal — whether it was emphasized in the lesson, whether every student is following or coming along.
- What kind of questions are asked

by the students, type of interaction in the classroom. Are students comfortable?

■ Check for consistency, patterns, common trends, constraints. Use specific examples to underscore any observation. Check how time was spent on instruction.

Post Observation

How do you feel about your class? How did things compare with what you had expected? Did anything surprise you? Was there anything in particular that pleased you? What? Why? Did anything disappoint you either? What? Why?

■ I noticed that you said/did . . . Why did you say/do that? By doing this is there any benefit/or disadvantage?

■ I noticed your students were divided in group why/why not? Was the session I observed typical of the rest of the classroom? Did you do anything special or did your students do something special because of my presence? What is that? Why?

■ What reading skill(s) did you want the kids to acquire/understand? How did s/l help them to understand that?

■ If you think about your class or if you reflect on what you did in the classroom, is there anything you would like to add, delete, or change? Why? Why not?

■ What would characterize good s/l use? How would you characterize this s/l project?

■ Did you note how much time you spent on each instruction? Overall, how do feel about yourself (teaching), and the students (learning)?

Footnote

¹ Adapted from Akujobi, (1995)

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