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R E S E A R C H
C O R P O R A T I O N

Evaluation Report

Virginia Learn and Serve Evaluation

Prepared for:
Virginia Department of Education
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Richmond, VA 23218

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August 2006

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Executive Summary

Introduction

Virginia Learn and Serve, funded by the Corporation for National and Community Service, is intended to support efforts to involve young people in meaningful service to their communities, while simultaneously building their academic and civic skills. In 2003-2004, the Virginia Department of Education provided subgrants to 12 K-12 school-based service-learning programs. Priority was given to those programs that implemented high quality service-learning projects that support high academic standards, specifically Virginia's Standards of Learning.

Evaluation

The evaluation was designed to answer the following four questions:

1. To what extent do students participating in service-learning activities become more affectively, behaviorally, and/or cognitively engaged in learning?
2. To what extent does participation in service-learning affect students' civic engagement, dispositions, skills, and knowledge?
3. What factors serve to mediate/moderate the effects of participation in service-learning?
4. To what extent do Learn and Serve projects meet criteria for quality and sustainability?

Data were collected from students and teachers at the beginning and end of the 2005-2006 school year using student surveys and an online Quality and Sustainability Index (QSI). Student data were collected from 19 schools in 7 school districts, including 4 elementary schools, 9 middle schools, 4 high schools, and 2 sites serving students in Grades 7-12. Two grantees did not participate in the pre-survey and thus were excluded from the sample. The sample included 213 students in Grades 3-5 and 712 in Grades 7-12. Only students who completed both the fall and spring surveys were included.

Service-learning teachers and others involved in the implementation of service-learning were asked to complete the online QSI during the 2005-2006 school year. The QSI data were collected from a total of 34 respondents, with 28 respondents completing the QSI in fall 2005 and 14 in spring 2006. Of that number, only eight respondents completed the QSI in both the fall and spring. Respondents represented nine school districts.

Results

The Virginia Learn and Serve program had significant positive effects on its participants. Impacts were higher for older students than younger students and higher for females than males. The more engaging the service-learning experiences, the stronger the positive impact. Specific results include:

- **Overall, younger students showed declines for most measures.** Statistically significant declines from fall to spring were reported for the items measuring school engagement and civic dispositions: *I am interested in the work at school*, *I pay attention in class*, and *I feel responsible for helping others*.
- **A statistically significant increase from fall to spring in civic knowledge scores was found for younger students**, indicating that students became more knowledgeable about government, the democratic process, and civic issues.
- **Older students showed statistically significant increases from fall to spring for team skills.** Statistically significant decreases were found for school engagement and valuing school.
- **Older students who reported participating in service-learning showed positive changes over time compared to those who did not participate.** Participant ratings of civic engagement, general problem-solving skills, and civic problem-solving skills, increased from fall to spring while those of nonparticipants decreased. Ratings of both participants and nonparticipants decreased for school engagement and valuing school, but the size of the decreases were greater for nonparticipants. Students who reported participating in service-learning had higher ratings for all outcomes than their peers who reported no participation.
- **From engaging in service-learning, older students tended to feel that they acquired learning more work-related knowledge and/or skills than academic skills.** Students were most likely to identify job skills, work experience, and career awareness as primary areas of impact, followed by academic skills such as reading, writing, and tutoring skills.
- **Student engagement in and perceived quality of service-learning served as predictors of students' school and civic outcomes.** Older students who reported being highly engaged in and participating in high quality service-learning projects were more likely to value school, be engaged in school, be civically engaged, feel a sense of civic efficacy, have positive civic dispositions, and possess various civic skills.
- **Older female students had higher post-survey ratings than male students for all outcomes.** Except for civic knowledge, differences in ratings were statistically significant. Overall, students changed in a similar fashion over time, with more positive changes reported for female students.
- **Teachers and coordinators felt that goals in various areas promoting service-learning quality and sustainability had been mostly achieved.** Ratings for QSI indicators in fall 2005 were highest in the areas of teaching and learning and collaborations and partnerships. Ratings for QSI indicators in spring 2006 were higher than those in fall 2005, with highest ratings assigned to teaching and learning and results/continuous improvement. Organizational capacity and district support received the lowest ratings in both fall and spring. On average, *most* teachers supported service learning in fall 2005 and spring 2006.

Background

Virginia Learn and Serve funded by the Corporation for National and Community Service, is intended to support efforts to involve young people in meaningful service to their communities, while simultaneously building their academic and civic skills. In 2003-2004, the Virginia Department of Education provided subgrants to 12 K-12 school-based service-learning programs. Priority was given to those programs that pledged to implement high quality service-learning projects that support learning high academic standards, specifically Virginia's Standards of Learning. To be eligible, programs were required to be housed in public schools and to have one or more community partners.

The subgrantees included elementary and secondary schools across Virginia, in rural, suburban, and urban areas. Subgrantees engaged their students in a variety of projects to serve their communities. For example, in one high school service-learning class, the students provided assistance to their local community, specifically focusing on neighbors in need. At another high school, students performed individual service projects such as assisting in a Head Start classroom. At a third school, the service-learning class organized a musical Veteran's Day program to honor local veterans.

Evaluation Activities

The Virginia Department of Education contracted with RMC Research Corporation to evaluate the effectiveness and impacts of their service-learning programs on students. This year's evaluation focused on the student impacts of participating in service-learning on a variety of outcomes, including student attitudes toward and engagement in school, civic outcomes, such as dispositions, engagement, skills, and knowledge.

Organization of This Report

This evaluation report examines the impact of Virginia Learn and Serve 2005-2006 programs on participating students. This introduction is followed by a summary of the methodology used to collect and analyze data. Results and conclusions follow.

This section summarizes the guiding questions, sample selection, methodologies, and measures used to evaluate the program. RMC Research used a quantitative method to collect information from students, teachers, and site coordinators. Instruments were developed and standardized by RMC Research to collect the data from these stakeholders. Exhibit 1 summarizes the methods and study population.

Exhibit 1. Summary of Methods Used to Evaluate the Virginia Learn and Serve Program

	Student Survey	QSI
Elementary schools	213	34
Secondary schools	712	
Total	925	34

Evaluation Questions

The evaluation was designed to answer the following four questions:

1. To what extent do students participating in service-learning activities become more affectively, behaviorally, and/or cognitively engaged in learning?
2. To what extent does participation in service-learning affect students' civic engagement, dispositions, skills, and knowledge?
3. What factors serve to mediate/moderate the effects of participation in service-learning?
4. To what extent do Learn and Serve projects meet criteria for quality and sustainability?

Sample

Student data were collected from 19 schools in 7 school districts, including 4 elementary schools, 9 middle schools, 4 high schools, and 2 sites serving students in Grades 7-12. Surveys were administered at the beginning and end of the 2005-2006 school year. Two subgrantees did not participate in the pre-survey and thus were excluded from the sample. A total of 213 students in Grades 3-5 and 712 in Grades 7-12 comprised the sample.

Service-learning teachers and others involved in the implementation of service-learning as part of the Virginia Learn and Serve program were asked to complete the online QSI during the 2005-2006 school year. The QSI data were collected from a total of 34 respondents, with 28 respondents completing the QSI in fall 2005 and 14 in spring 2006. Of that number, only eight respondents completed the QSI in both the fall and spring. Respondents represented nine school districts.

Methods of Data Collection

Student Surveys

Student surveys included measures of students' school and civic outcomes and characteristics of the service-learning experience. Two different versions of the survey were created: one for students in Grades 3-5 and one for students in Grades 6-12. Items measured academic engagement and students' civic engagement, dispositions, skills, and knowledge. The post-survey also had items asking about students' engagement and experience in service-learning activities. All survey items were rated on a 4-point Likert-type agreement scale where 1 = strongly disagree to 4 = strongly agree, or a 5-point frequency scale where 1 = never/almost never to 5 = always/almost always. The older student survey had a variety of subscales to measure the same constructs as well as demographic information including age, gender, primary language spoken at home, extracurricular activities, prior service experience, and average grades earned at school. Descriptions of these measures are presented below.

School Outcomes

- A *school engagement* measure was designed to assess students' affective, behavioral, and cognitive engagement at school.
- A *school attachment* measure assessed students' sense of connection to school (e.g., feeling proud of their school and doing things to make the school a better place).
- A measure of *valuing school* was assessed through questions examining the degree to which students felt that their school work was meaningful and worthwhile.

Civic Outcomes

- A *community attachment* measure assessed students' sense of connection to community in terms of feeling proud of their community and doing things to make the community a better place.
- *Civic engagement* items measured students' involvement in the community such as awareness of community needs and working to address problems in the community.
- *Civic efficacy* was measured by items that addressed feelings of making a difference in their neighborhood or town and making the world better.
- A measure of students' *civic dispositions* assessed students' sense of social responsibility and tolerance toward diversity through questions about the degree to which they felt responsible for helping others, intended to volunteer throughout life, respected the views of others, and respected people who were different from themselves.
- Students' *civic skills* were assessed by asking students to rate their ability to perform particular activities required by effective civic participation. This measure had several

subscales: team skills, problem-solving skills, and civic problem-solving skills. Items included:

- Compromising when disagreeing with someone;
 - Being open to different points of view;
 - Leading a group;
 - Finding ways to solve problems;
 - Knowing where to find information to solve problems; and
 - Identifying community problems.
- Students' *civic knowledge* was measured through objective items adapted from the National Assessment of Academic Progress (NAEP) about the branches of government, democratic process, civic responsibility, and related knowledge areas.

Characteristics of Service-Learning Experience

- A service-learning engagement measure included items that measured students' affective, behavioral, and cognitive involvement in service-learning.
- A service-learning experience measure included items asking students about various indicators of the quality of service-learning experience such as opportunity for input into the project, challenge, and reflection.

Factor analyses¹ were performed to validate assumptions regarding underlying constructs of the surveys made in the preliminary survey design process. All student responses from both the pre- and post-surveys were used except for civic knowledge items, which were on a nominal scale. Subsequent reliability analyses were conducted to examine the scalability of items that formed factors.

Items on the survey for younger students did not form factors well and most scales had low internal consistencies², so items were analyzed separately. Items measuring service-learning engagement and service-learning experience had acceptable internal consistencies and were averaged to form scales (Cronbach's alphas³ were .67 and .74, respectively). A civic knowledge scale was also created and represented the sum of the scores on the four individual knowledge items.

Items on the older student survey had acceptable internal consistencies and thus were averaged to form scales. Ten scales were formed:

1. School engagement;
2. Valuing school;

¹Factor Analysis is a statistical procedure for reducing the number of variables studied to a smaller group of more-reliable factors.

²Reliability or internal consistency is a measure of how well multiple items on a survey measure the same characteristic.

³Cronbach's alpha is a measure of the reliability, assessing the internal consistency of survey scales. Values range from 0 to 1. Survey items that cluster together well will have a higher alpha.

3. Civic efficacy;
4. Civic dispositions;
5. Team skills;
6. General problem-solving skills;
7. Civic problem-solving skills;
8. Civic knowledge;
9. Service-learning engagement; and
10. Service-learning quality.

Cronbach's alphas for each scale ranged from .76 to .86 for the pre-survey and from .77 to .99 for the post-survey and are summarized in Exhibit 2. Cronbach's alpha for the civic knowledge scale is not presented here because this scale represented the sum of scores on individual civic knowledge items, not the average scores of those items.

For younger students, a series of paired-samples *t* tests⁴ were conducted to investigate the magnitude of change over time. A different approach was used for older students. Since almost half of older students (44%) either reported no participation in service-learning during the past academic year or did not answer the items related to service-learning on the post-survey, repeated measures analysis of variance (RMANOVA)⁵ was conducted to determine (a) if students as a whole group changed over time, and (b) if the results differed for students who reported participation in service-learning and for those who did not. Students who did not indicate that they participated in service-learning, yet answered service-learning items, were coded as participants. Students who did not answer service-learning items were coded as nonparticipants.

There could be errors in students' self-report of their participation in service-learning. The results should be viewed with caution. For students who reported participation in service-learning, regression analysis⁶ using a multivariate analysis of variance (MANOVA)⁷ was conducted on their post-survey responses to examine whether student outcomes were influenced by the extent to which students were engaged in service-learning and by the quality of the service-learning experience. Analyses of variance (ANOVAs)⁸ were conducted for older students who reported participating in service-learning to determine if student outcomes varied by gender. Differences among grade levels were not examined because the sample was predominantly comprised of middle school students (students in Grades 7 and 8).

⁴Paired-samples *t* tests are a statistical measurement used to determine differences between matched pre- and post-survey responses for a group.

⁵Repeated measures analysis of variance (RMANOVA) is a statistical measurement used to determine both the differences between groups and within groups when the same measurement is made several times. Here, differences in the ways that subgroups changed over time were examined.

⁶Regression analysis is a statistical tool that examines the relationships among two or more variables.

⁷Multivariate procedure allows modeling the values of multiple dependent scale variables, based on their relationships to categorical and scale predictors. Here, independent (predictor) variables are specified as covariates.

⁸Analysis of variance (ANOVA) is a statistical tool that measures the differences between two or more groups.

**Exhibit 2. Internal Consistency for Survey
Scale Variables, Older Students (N = 712)**

	N	Cronbach's Alpha (Pre-Survey)	N	Cronbach's Alpha (Post-Survey)	Number of Items
School Engagement	661	.81	601	.80	8
Valuing School	721	.78	656	.84	4
Civic Engagement	709	.86	667	.86	7
Civic Efficacy	738	.78	684	.77	2
Civic Dispositions	705	.84	659	.86	7
Team Skills	681	.80	617	.84	7
General Problem-Solving Skills	703	.84	634	.86	6
Civic Problem-Solving Skills	729	.76	652	.77	2
Service-Learning Engagement		NA	360	.85	3
Service-Learning Experience		NA	340	.80	8

Note: Responses were rated on a 4-point Likert-type scale where 1 = strongly disagree to 4 = strongly agree, except for the scale for service-learning experience, where 1 = never/almost never, 3 = sometimes, and 5 = always/almost always. Internal consistency for the service-learning engagement and service-learning experience scales was calculated for only the students who reported participation in service-learning.

Online Quality and Sustainability Index

In the fall 2005 and spring 2006, service-learning coordinators, classroom teachers, and others implementing service-learning completed the QSI. The tool is designed to measure progress toward factors associated with high quality implementation, institutionalization, and sustainability of service-learning programs.

Respondents were asked to rate the extent to which several indicators of quality and sustainability were met on a 5-point scale where 1= not achieved, 2= partially achieved, 3 = mostly achieved, 4 = completely achieved, and 5 = don't know/NA. Eight indicators were created by averaging responses across multiple individual items. Each of the indicators is briefly described below.

1. ***Policy and Leadership*** (7 items). Includes integration into school mission and vision, strategic plans, and written policies; promotion of service-learning principles and administrator expectations that promote service-learning; and linkage to curriculum guidelines and content standards.
2. ***Organizational Capacity*** (7 items). Includes adequacy of funding, professional development, and coordination capacity; linkage to school improvement efforts; flexibility in terms of scheduling and transportation; and incentives for implementation.
3. ***Collaborations and Partnerships*** (7 items). Includes public awareness of service-learning activities; effective partnerships with community organizations; and community, parent, district, and school board support.
4. ***Teaching and Learning*** (16 items). Includes recognition of service-learning as a regular teaching methodology, meaningful involvement of students, use of reflection and

assessments, promotion of higher-order thinking skills, and clear goals for service-learning programs.

5. *Results/Continuous Improvement* (3 items). Includes visibility and recognition of benefits of service-learning, use of evaluation to demonstrate impact, and presence of intentional replication practices.
6. *Schoolwide Support* (5 items). Includes school culture that supports service-learning; presence of onsite champions; routine implementation; and open communication, reward, recognition, and celebration activities.
7. *Collegial Support* (4 items). Includes teacher belief in a positive impact of service-learning, recognition of importance, and commitment to teaching with service-learning.
8. *District Support* (11 items). Includes integration of service-learning into district mission, vision, policies, and professional development; presence of a district coordinator, advisory committee, and effective partnerships; provision of adequate funding and in-kind support; and linkage to federal, state, and district initiatives.

Descriptive statistics are presented for fall 2005 and spring 2006. Due to an extremely small matched sample size ($N = 8$), no statistical tests of significance were conducted.

A copy of the student surveys can be found in the Appendix.

This section contains the results of younger student survey analyses, followed by older student survey analyses. For each age group, student demographic information is presented first, followed by the changes in student responses from the pre-survey to post-survey.

Younger Student Survey

The younger student sample included 213 students in Grades 3-5 from four elementary schools. The demographic profile of the sample is presented in Exhibit 3. The sample included a slightly larger number of female students than male students. About 40% of students were in the 3rd grade, followed by one third in the 4th grade and one fifth in the 5th-grade.

**Exhibit 3. Demographic Characteristics
of Younger Students (N = 213)**

	<i>N</i>	Percent
Gender		
Male	97	45.5
Female	115	54.0
Not specified	1	0.5
Grade Level		
3	88	41.3
4	71	33.3
5	54	25.4

Student Changes From Fall to Spring

Exhibit 4 presents student responses on the pre- and post-surveys. Overall, students showed declines in ratings for most measures. Statistically significant decreases from fall to spring were reported for the items, *I am interested in the work at school*, *I pay attention in class*, and *I feel responsible for helping others*. However, there was a statistically significant increase in civic knowledge scores over time. Increases in ratings from fall to spring for the item, *Students my age can do things to make the world better* approached statistical significance ($p = 0.7$). Post-surveys were administered in the spring; timing may have influenced school engagement results.

Exhibit 4. Summary of Younger Student Survey Responses, Grades 3-5

	N	Pre-Survey		Post-Survey	
		Mean ⁹	SD ¹⁰	Mean	SD
School Engagement					
I like being at school.	208	3.05	0.78	2.97	0.83
I am interested in the work at school.*	205	2.95	0.76	2.85	0.72
I pay attention in class.**	208	3.41	0.65	3.27	0.67
I do not try very hard in school.	207	1.46	0.89	1.48	0.89
Time seems to pass quickly when I am doing schoolwork.	206	2.87	1.02	2.99	0.98
I like schoolwork best when it is hard.	204	2.40	1.02	2.35	1.05
Connectedness to School					
I feel proud of my school.	205	3.60	0.65	3.61	0.64
I do things to help make my school a better place.	199	3.25	0.69	3.16	0.64
Connectedness to Community					
I feel proud of my neighborhood or town.	203	3.42	0.74	3.36	0.73
I do things to make my neighborhood or town a better place.	203	3.12	0.72	3.05	0.73
Civic Skills					
I know how to work well with other students.	206	3.32	0.71	3.33	0.67
I listen to other people even if they have different ideas.	206	3.37	0.70	3.34	0.63
I am good at saying what I think.	205	3.07	0.89	3.06	0.88
If I have a problem I can usually think of solutions.	207	3.02	0.75	3.03	0.76
I know what to do to help make my neighborhood or town a better place.	203	3.22	0.77	3.15	0.80
Civic Dispositions					
Students my age can do things to make the world better.	207	3.54	0.67	3.63	0.62
I can make a difference in my neighborhood or town.	207	3.26	0.76	3.29	0.78
I feel responsible for helping others.***	205	3.47	0.62	3.21	0.76
Civic Knowledge^a					
Sum of civic knowledge scores***	210	2.56	1.10	3.12	0.90

Note: ^aThis scale represents the sum of the scores on four individual knowledge items. * $p < .05$, *** $p < .001$.

Student ratings of their engagement and experience in service-learning are presented in Exhibit 5. The results indicate that students were highly engaged in service-learning and their service-learning experience was generally positive.

⁹Mean is based on items using a 4-point rating scale where 1 = low agreement with item and 4 or 5 = high agreement with item.

¹⁰Standard deviation (SD) is a measure of how spread out your data are. The sample standard deviation measures the variability of data in a sample. SD is an index of how much scores vary; subscales with higher standard deviations have more variance in responses.

**Exhibit 5. Younger Student Ratings of the Characteristics
of Service-Learning Experiences, Grades 3-5**

	<i>N</i>	Post-Survey	
		Mean	<i>SD</i>
Service-Learning Engagement	185	3.26	0.56
Service-Learning Experience	185	2.77	0.64

Older Student Survey

Exhibit 6 presents a demographic profile of the older student sample. The sample included 712 students in Grades 7-12 from 16 secondary schools. There was a slightly larger number of female students than male students in the sample. The majority of the sample were middle school students with more than 60% of the students being in the 7th grade, followed by 18% in the 8th grade. More than three fourths of the sample was comprised of White/Caucasian students; the vast majority of students spoke English at home.

**Exhibit 6. Demographic Characteristics
of Older Students (*N* = 712)**

	<i>N</i>	Percent
Gender		
Male	328	46.1
Female	384	53.9
Grade Level		
7	462	64.9
8	130	18.3
9	6	0.8
10	25	3.5
11	44	6.2
12	45	6.3
Ethnicity ^b		
White/Caucasian	541	76.0
Black/African American	105	14.7
Hispanic/Latino	42	5.9
Asian/Pacific Islander	19	2.7
American Indian/Alaskan Native	15	2.1
Other	45	6.3
Language Spoken at Home		
English	686	96.3
Spanish	12	1.7
Other	14	2.0

Note: ^bPercentages do not sum to 100 because respondents could select more than one answer.

Student Involvement in Extracurricular and Service Activities

Exhibit 7 presents student participation in extracurricular and service activities. About three fourths of students reported participating in sports, followed by nearly 40% participating in a service club.

More than 30% of students reported performing service with their church or religious group, with a slightly fewer percentage performing service in school. More than 20% volunteered with a youth organization and/or with their family. No prior experience with service was reported by less than one fifth of students.

Exhibit 7. Older Student Participation in Extracurricular and Service Activities (N = 712)

	<i>N</i>	Percent
Extracurricular Activities		
Sports	540	75.8
Service Club	272	38.5
Other Club	181	25.4
Academic Club	167	23.5
Job	134	18.8
Student Leadership Groups	125	17.6
No Extracurricular Activities	50	7.0
Service Experience		
With a church	249	35.0
In school	222	31.2
With a youth organization	151	21.2
With family	148	20.8
With neighborhood	92	12.8
No prior experience with service	116	16.3

Note: Percentages do not sum to 100 because respondents could select more than one answer.

Student Academic Performance

Exhibit 8 displays students' reports of their grades on both the pre- and post-surveys. More than 60% of students reported earning "mostly As" or "mostly Bs" on both surveys. Less than one fifth of the sample reported "mostly Cs" or below.

Exhibit 8. Older Student Self-Report of Grades (N = 712)

	Pre-Survey		Post-Survey	
	N	Percent	N	Percent
Mostly As	249	35.0	232	32.6
Mostly Bs	246	34.6	230	32.3
Mostly Cs	104	14.6	121	17.0
Mostly Ds	9	1.3	17	2.4
Mostly Fs	2	0.3	2	0.3
No information	102	14.3	110	15.4

Student Changes From Fall to Spring

Exhibit 9 shows changes in ratings over time and reveals a statistically significant increase for team skills. Older students' post-survey ratings were slightly higher than their pre-survey ratings for civic efficacy, general problem-solving skills, and civic knowledge. However, statistically significant decreases over time were found for school engagement and valuing school. Student ratings for civic engagement, civic dispositions, and civic problem-solving skills slightly decreased over time, but the differences in ratings were not statistically significant.

Exhibit 9. Summary of Older Student Survey Responses, Grades 7-12

	N	Pre-Survey		Post-Survey	
		Mean	SD	Mean	SD
School Engagement**	670	2.81	0.51	2.76	0.54
Valuing School***	668	3.08	0.59	3.00	0.66
Civic Engagement	685	2.58	0.54	2.55	0.57
Civic Efficacy	685	3.13	0.66	3.17	0.63
Civic Dispositions	682	3.10	0.49	3.08	0.52
Civic Skills – Team Skills*	654	2.97	0.49	3.02	0.56
Civic Skills – General Problem-Solving Skills	655	3.08	0.51	3.10	0.58
Civic Skills – Civic Problem-Solving Skills	648	2.63	0.74	2.62	0.75
Civic Knowledge ^c	712	2.68	1.29	2.76	1.29

Note: ^cThis scale represents the sum of the scores on the five individual knowledge items. * $p < .05$, ** $p < .01$, *** $p < .001$.

When differences in ratings by students' self-report of participation were examined, an interesting pattern emerged. Students who reported participation in service-learning not only had higher ratings for all outcome measures than those who reported no participation, but their ratings increased over time while those of nonparticipants decreased for several measures. Statistically significant results in the way students changed over time were found for:

- School engagement ($p < .05$);
- Valuing school ($p < .01$);
- Civic engagement ($p < .05$);
- General problem-solving skills ($p < .01$); and
- Civic problem-solving skills ($p < .01$).

Although both service-learning participants' and nonparticipants' ratings decreased over time for school engagement and valuing school, the size of decreases were greater for nonparticipants. For three civic measures (civic engagement, general problem-solving skills, and civic problem-solving skills), students who reported participation in service-learning increased their ratings over time while those who reported no participation decreased. The results are displayed in Exhibits 10 through 14.

Exhibit 10. Comparison of Service-Learning Participant and Nonparticipant Ratings of School Engagement

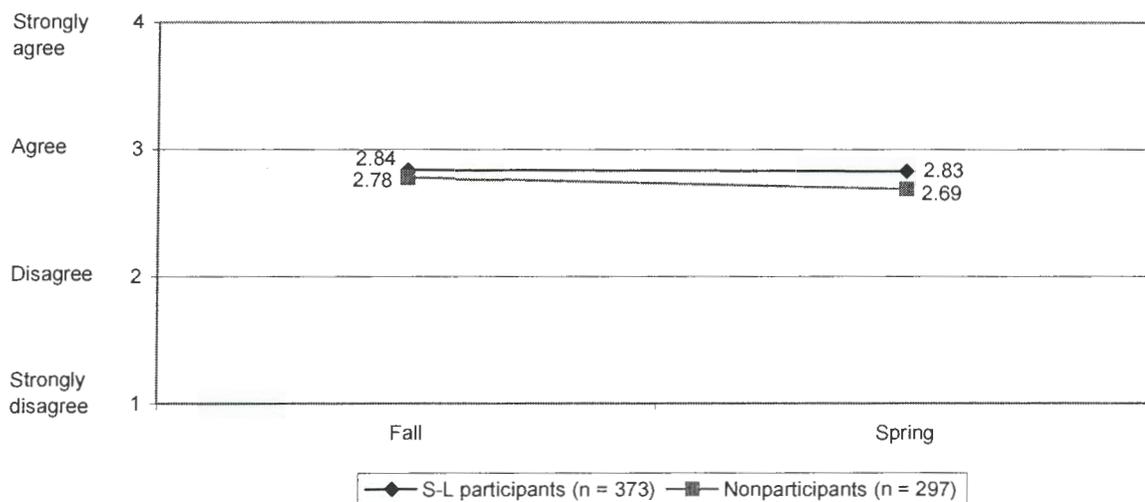


Exhibit 11. Comparison of Service-Learning Participant and Nonparticipant Ratings of Valuing School

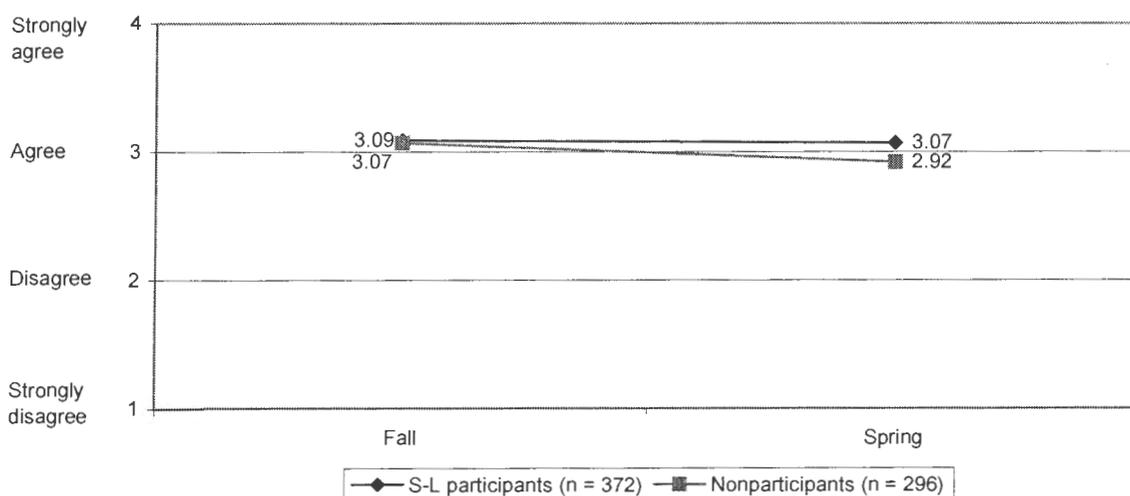


Exhibit 12. Comparison of Service-Learning Participant and Nonparticipant Ratings of Civic Engagement

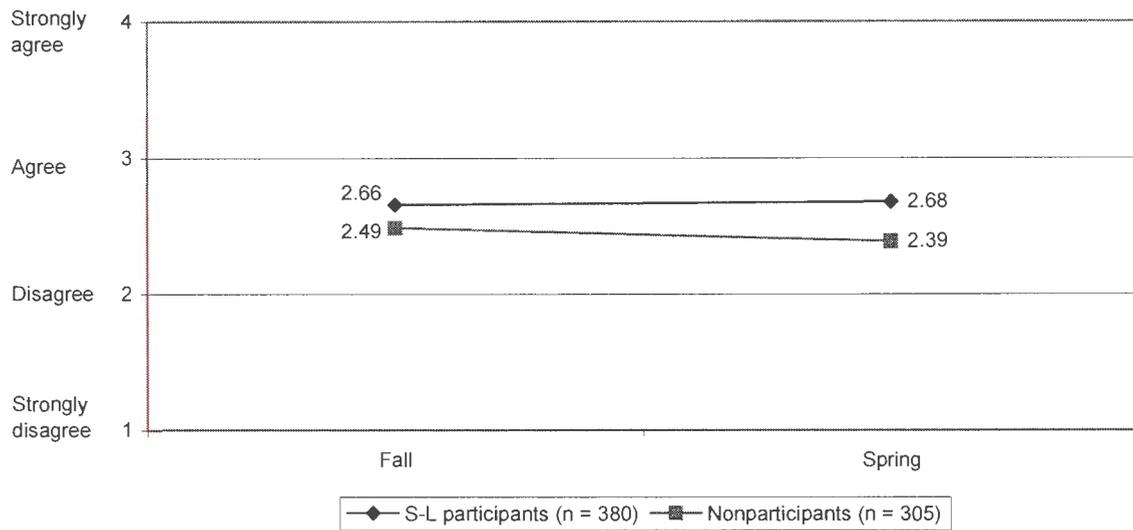


Exhibit 13. Comparison of Service-Learning Participant and Nonparticipant Ratings of General Problem-Solving Skills

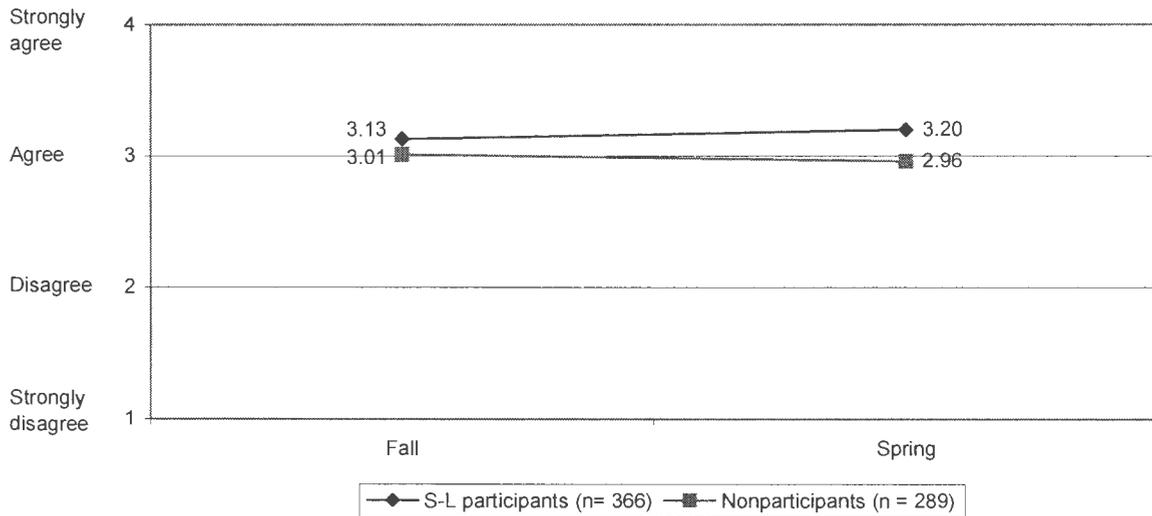
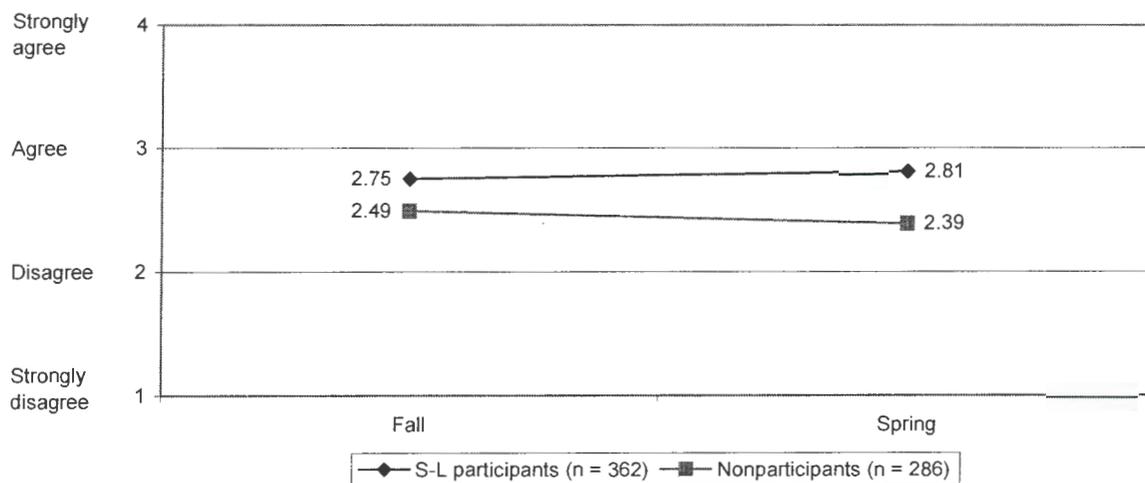


Exhibit 14. Comparison of Service-Learning Participant and Nonparticipant Ratings of Civic Problem-Solving Skills

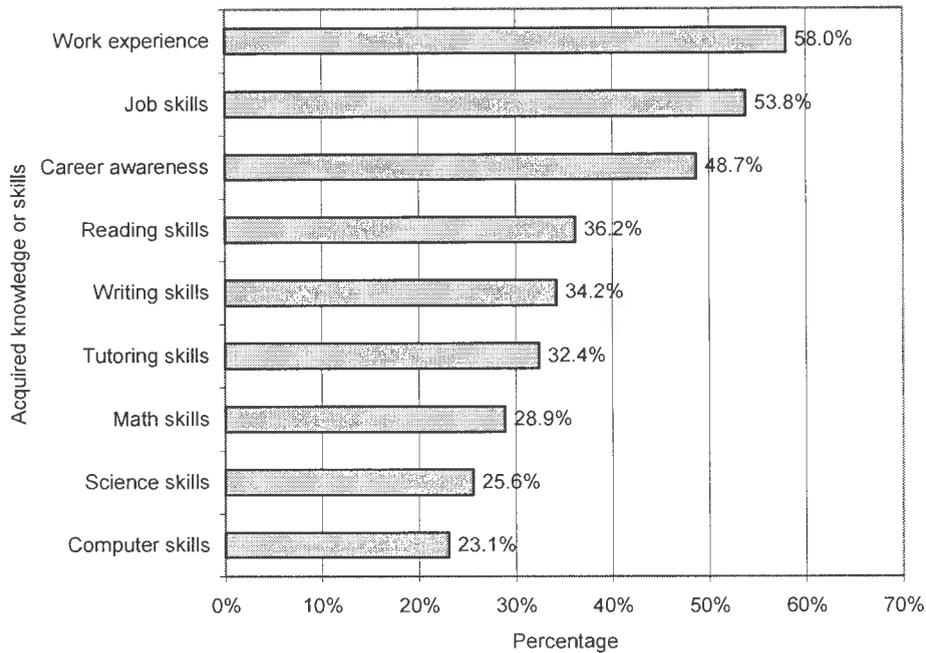


A similar pattern was observed for the remaining measures. Ratings of both groups increased from fall to spring for civic efficacy, team skills, and civic knowledge, but students who reported participation in service-learning increased to a greater degree. Ratings of both participants and nonparticipants decreased from fall to spring for civic disposition, but those of nonparticipants decreased to a greater degree. None of these results was statistically significant.

Student Perception of Benefits Acquired

Students were asked to indicate which of several skills and experience they acquired as a result of participating in service-learning. Exhibit 15 shows that three most frequently noted areas were job skills (58%), work experience (54%), and career awareness (49%). These were followed by reading skills (36%), writing skills (34%), and tutoring skills (32%). Students were least likely to identify acquisition of math, science, or computer skills.

Exhibit 15. Perceived Benefits Acquired Through Participation in Service-Learning (N = 398)



Association Between Student Engagement and Experience in Service-Learning and Student Outcomes

Regression analysis revealed that older students’ engagement in service-learning was significantly associated with all outcome measures except civic knowledge, which approached statistical significance ($p = .09$). Exhibit 16 displays the size of relationship between students’ service-learning engagement and each of the outcome measures. The results show that students who scored high on the service-learning engagement measure were more likely to value school, be engaged in school, be civically engaged, feel a sense of civic efficacy, have positive civic dispositions, and possess various civic skills.

Exhibit 16. Association Between Student Engagement in Service-Learning and Student Outcomes

Dependent Variable	F	p
School Engagement	122.979	.000
Valuing School	98.492	.000
Civic Engagement	117.060	.000
Civic Efficacy	105.565	.000
Civic Dispositions	140.089	.000
Civic Skills – Team Skills	75.389	.000
Civic Skills – General Problem-Solving Skills	80.097	.000
Civic Skills – Civic Problem-Solving Skills	81.586	.000
Civic Knowledge	2.884	.090

Students' experience in or their perceptions of the quality of service-learning projects were also significantly associated with all outcome measures except civic knowledge. Exhibit 17 displays the magnitude of the relationship between students' perceived quality of service-learning projects and each of the student outcome measures. The results indicate that students who participated in high quality service-learning projects were more likely to value school, be engaged in school, be civically engaged, feel a sense of civic efficacy, have positive civic dispositions, and possess various civic skills than those who participated in low-quality, service-learning projects.

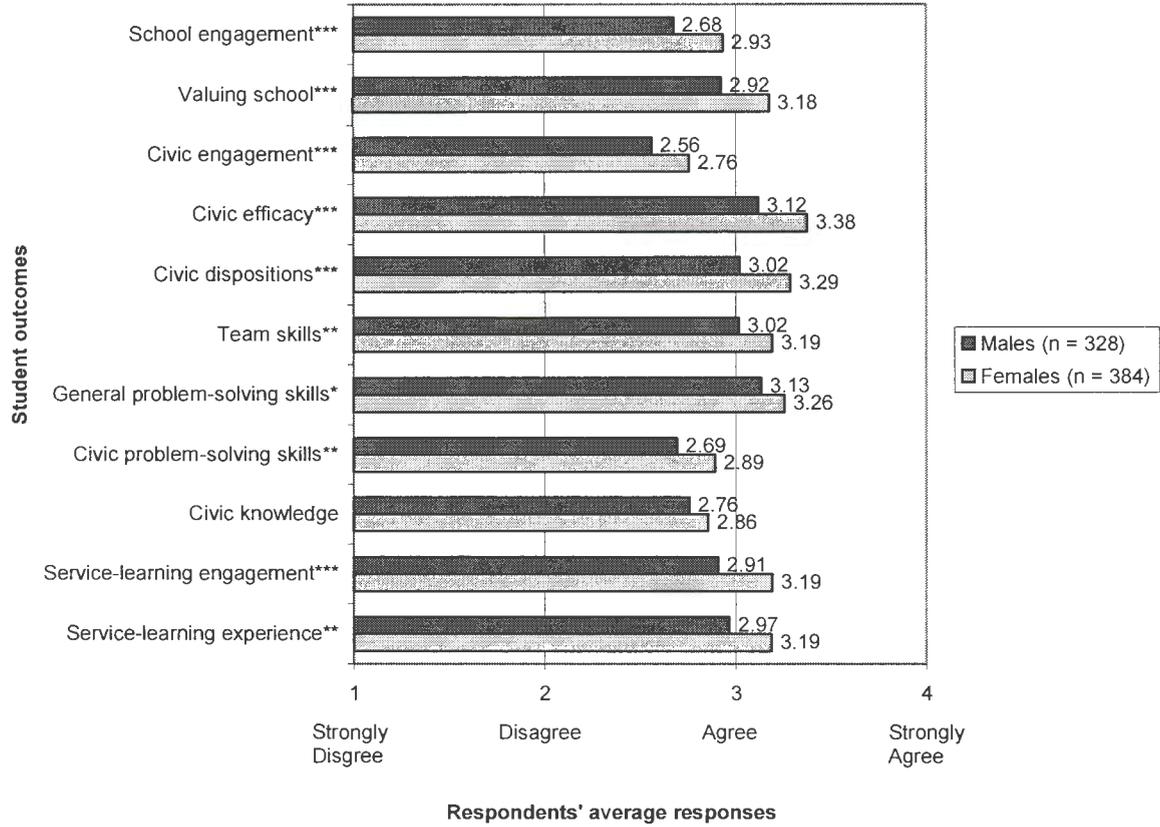
Exhibit 17. Association Between Students' Perceived Quality of Service-Learning Experience and Student Outcomes

Dependent Variable	F	p
School Engagement	79.862	.000
Valuing School	55.772	.000
Civic Engagement	109.909	.000
Civic Efficacy	44.141	.000
Civic Dispositions	102.546	.000
Civic Skills – Team Skills	37.975	.000
Civic Skills – General Problem-Solving Skills	36.230	.000
Civic Skills – Civic Problem-Solving Skills	82.177	.000
Civic Knowledge	2.121	.146

Gender Differences

Female students had higher ratings for all outcomes than their male peers on both the pre- and post-surveys. As shown in Exhibit 18, female students' post-survey ratings were statistically significantly higher than those of male students for all outcomes, except for civic knowledge. Overall, they changed in a similar fashion over time, with more positive changes reported for female students.

Exhibit 18. Older Students' Post-Survey Ratings by Gender



Note: The actual sample sizes for each measure slightly varied. * $p < .05$, ** $p < .01$, *** $p < .001$.

Respondents and Program Characteristics

Exhibit 19 shows the number and types of respondents who completed the QSI in fall 2005 and spring 2006. About two-thirds or more respondents were classroom teachers and most other respondents were service-learning coordinators. Respondents in the other category included a family literacy coordinator, a partner agency lead teacher, and a social worker.

Exhibit 19. Respondent Types

	Fall 2005 (<i>N</i> = 28)		Spring 2006 (<i>N</i> = 14)	
	<i>N</i>	Percent	<i>N</i>	Percent
Teacher	18	64.3	10	71.4
Service-Learning Coordinator	7	25.0	5	35.7
Counselor	2	7.1	1	7.1
Principal/Assistant Principal	1	3.6	1	7.1
Other	5	17.9	1	7.1

Note: Percentages do not sum to 100 because respondents could select more than one category.

Only a proportion of the respondents provided information regarding their service-learning programs. Fall respondents ($n = 15$) indicated that their school had received Learn and Serve funds for between 1 and 6 years, with a median of 2 years while spring respondents ($n = 6$) indicated that their school had received Learn and Serve funds for between 1 and 6 years, with a median of 3 years. More than 40% of respondents at both points in time (46% in the fall and 43% in the spring) indicated that their school received Title I funds. Twelve fall respondents and nine spring respondents indicated that between 2 and 50 senior citizens served as volunteers with their programs.

Funding Sources

Respondents were asked to indicate the funding sources for service-learning programs in their school or district. As shown in Exhibit 20, the majority of respondents reported that their schools received Learn and Serve K-12 funding, followed by between 21% and 36% of respondents reporting that their schools received funding from the districts. A smaller number of respondents indicated that funding came from the state, the community, and a foundation. Between 14% and 29% indicated that they received funding from other sources.

Exhibit 20. Service-Learning Funding Sources

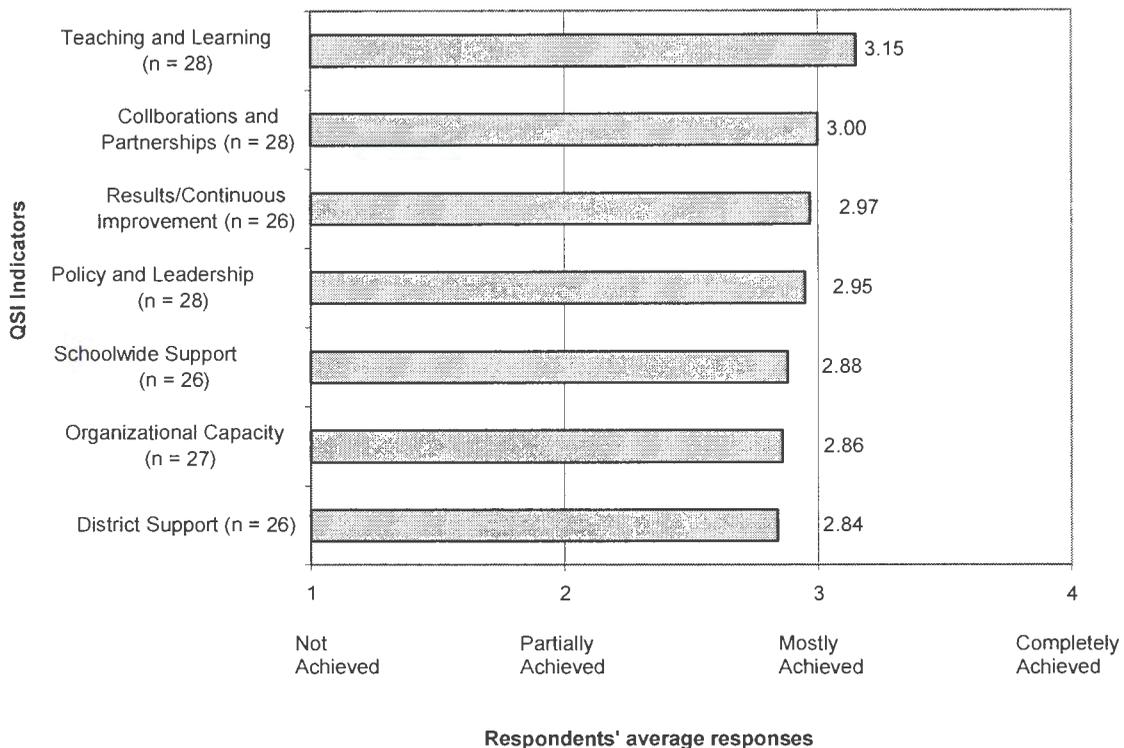
	Fall 2005 (N = 28)		Spring 2006 (N = 14)	
	N	Percent	N	Percent
Learn and Serve K-12 Grants	21	75.0	14	100.0
District Funds	6	21.4	5	35.7
State Funds	5	17.9	2	14.3
Community Funds	5	17.9	5	35.7
Foundation Grants	4	14.3	1	7.1
Other Funds	8	28.6	2	14.3

Note: Percentages do not sum to 100 because respondents could select more than one category.

Ratings of Service-Learning Quality and Sustainability

Exhibit 21 presents average respondent ratings of service-learning quality and sustainability indicators for spring 2005. All indicators were close to an average of 3, indicating that goals in these areas had been mostly achieved. Ratings were highest in the areas of teaching and learning and collaborations and partnerships. District support and organizational capacity received the lowest ratings.

Exhibit 21. Quality and Sustainability Indicators, Fall 2005



Ratings for QSI indicators in spring 2006 were higher than those in fall 2005. The results are presented in Exhibit 22. Highest ratings were assigned to teaching and learning, results/continuous improvement, and schoolwide support. Organizational capacity and district support again received the lowest ratings in the spring.

Exhibit 22. Quality and Sustainability Indicators, Spring 2006

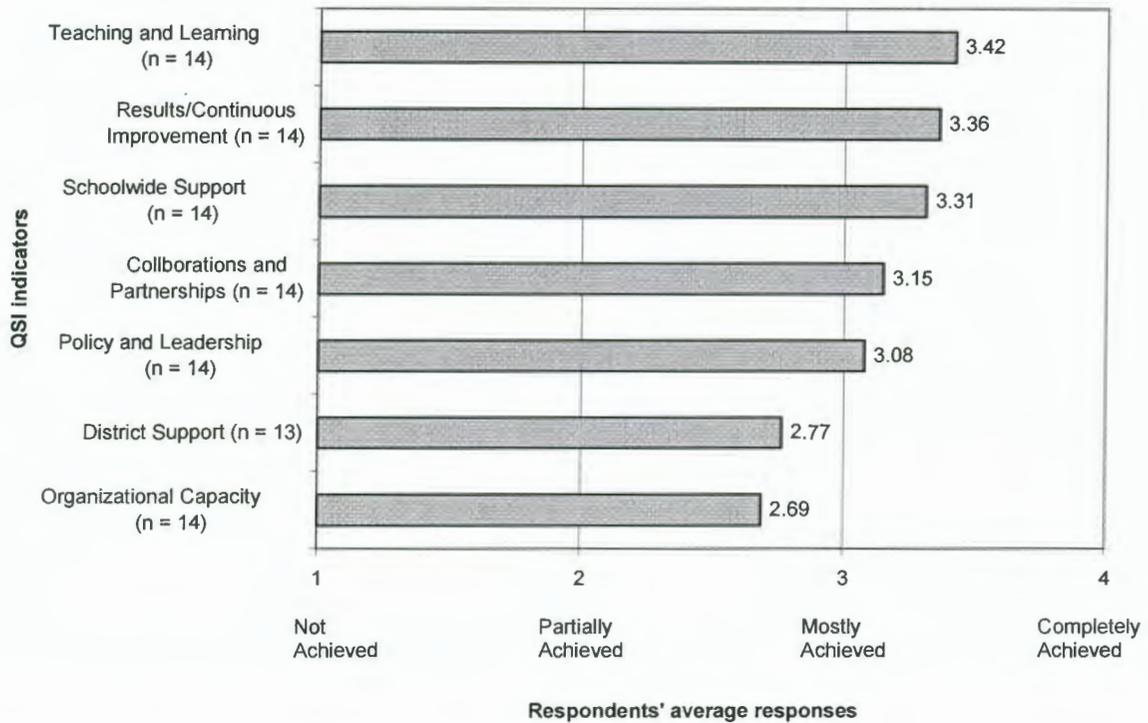
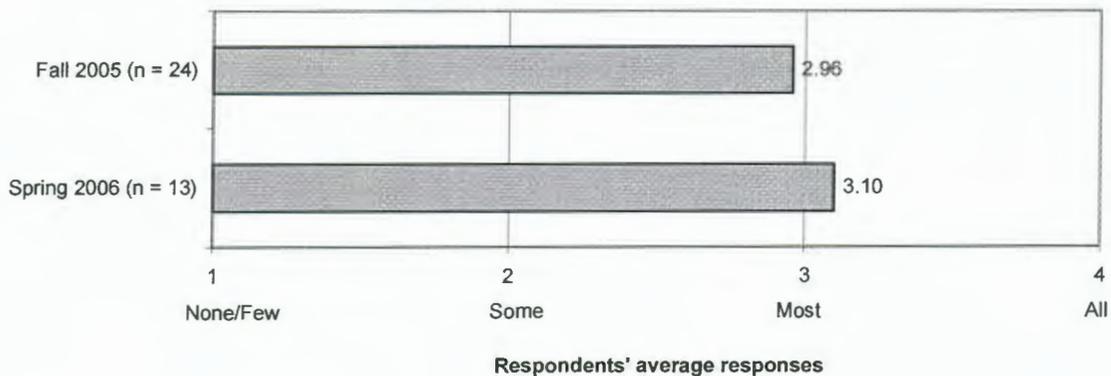


Exhibit 23 shows that, on average, *most* teachers supported service learning in fall 2005 and spring 2006.

Exhibit 23. Quality and Sustainability Indicator: Collegial Support



Conclusions

The Virginia Learn and Serve program had significant positive effects on its participants. Impacts were higher for older students than younger students and higher for females than males. The more engaging the service-learning experiences, the stronger the positive impact. Specific results include:

- **Overall, younger students showed decreases in ratings over time for most measures.** Statistically significant declines from fall to spring were reported for the items measuring school engagement and civic dispositions: *I am interested in the work at school, I pay attention in class, and I feel responsible for helping others.*
- **A statistically significant increase from fall to spring in civic knowledge scores was found for younger students, indicating that students became more knowledgeable about government, the democratic process, and civic issues.** Increases in ratings from fall to spring for the item, *Students my age can do things to make the world better* approached statistical significance. Student reports of their engagement in and perceived quality of service-learning experience was generally positive.
- **Older students, as a whole group, showed statistically significant increases from fall to spring for team skills.** Although not statistically significant, older students' spring ratings were slightly higher than their fall ratings for civic efficacy, team skills, general problem-solving skills, and civic knowledge. However, statistically significant decreases over time were found for school engagement and valuing school. Students showed statistically nonsignificant decreases in ratings for civic engagement, civic dispositions, and civic problem-solving skills.
- **Students who reported participating in service-learning had higher ratings for all outcome measures than did their peers who reported no participation.** Although ratings for both participants and nonparticipants decreased for school engagement and valuing school, the size of decreases were greater for nonparticipants. For civic engagement, general problem-solving skills, and civic problem-solving skills, participant ratings increased from fall to spring while those of nonparticipants decreased. A similar pattern was observed for the remaining measures.
- **Older participating students tended to feel that they acquired greater work-related knowledge and/or skills than academic skills.** Students were most likely to identify job skills, work experience, and career awareness as primary areas of impact, followed by academic skills such as reading, writing, and tutoring skills. Students were least likely to identify acquisition of math, science, or computer skills.
- **Student engagement in and perceived quality of service-learning served as good predictors of students' school and civic outcomes.** Older students who reported being highly engaged in and participating in high quality service-learning projects were more likely

to value school, be engaged in school, be civically engaged, feel a sense of civic efficacy, have positive civic dispositions, and possess various civic skills.

- **Older female students had higher post-survey ratings than male students for all outcomes.** Differences in ratings were statistically significant, except for civic knowledge. Overall, they changed in a similar fashion over time, with more positive changes reported for female students.

Analysis of service-learning quality and sustainability indicators revealed that teachers and coordinators felt that goals in various areas had been mostly achieved. Ratings for QSI indicators in fall 2005 were highest in the areas of teaching and learning and collaborations and partnerships. Ratings for QSI indicators in spring 2006 were higher than those in fall 2005, with highest ratings assigned to teaching and learning and results/continuous improvement. Organizational capacity and district support received the lowest ratings in both fall and spring. On average, *most* teachers supported service learning in fall 2005 and spring 2006.

Appendix

Younger Student Survey Fall, 2005
Younger Student Survey Spanish Fall, 2005
Younger Student Survey Spring, 2006
Younger Student Survey Spanish Spring, 2006
Older Student Survey Fall, 2005
Older Student Survey Spanish Fall, 2005
Older Student Survey Spring, 2006
Older Student Survey Spanish, Spring 2006
