



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

Evaluation Report

Colorado Department of Education Learn and Serve Colorado 2005-2006 Programs

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**Colorado Department of Education
Learn and Serve Colorado
2005-2006 Programs**

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Prepared for:

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Introduction

With funding from the Corporation for National and Community Service's Learn and Serve America program, Learn and Serve Colorado implements two primary grant programs that support the implementation of service-learning. One program, District Service-Learning, provides funding to Colorado school districts, the Board of Cooperative Educational Services (BOCES), schools, and collaborations of local education agencies (LEAs) with shared services agreements to develop and institutionalize high quality service-learning programs with a focus on civics. The other program, the Innovations in Civic Learning (ICL) grant, provides funding to Colorado school districts and the BOCES to develop and implement innovative, districtwide plans to increase students' civic competencies through high quality service-learning and civic education. These programs address a variety of needs common to rural and underserved communities and share a central focus on improving student achievement, increasing youth civic engagement, and recruiting volunteers of all ages.

Evaluation Methods

RMC Research collected survey data to assess the effectiveness and impact of these programs. A total of 733 students from 10 elementary schools, 5 middle schools, 2 high schools, 1 K-7 school, and 2 K-12 schools participated in the survey. There were 560 students in the service-learning group and 173 in the comparison group. The younger student sample included 447 students (330 service-learning and 117 comparison) and the older student sample included 286 students (230 service-learning and 56 comparison).

Service-learning teachers and others involved in the implementation of service-learning as part of the Learn and Serve Colorado program were asked to complete the online Quality and Sustainability Index (QSI) during the 2005-2006 school year. The QSI was completed by 33 respondents, 24 in fall 2005 and 16 in spring 2006, representing nine and six school districts respectively. Seven respondents completed both the fall and the spring QSI.

Results

The Learn and Serve Colorado program had positive effects in some areas. Impacts were higher for older students than younger students and higher for female students than male students. The more engaging the service-learning experiences were, the stronger the positive impact. Length of students' service-learning involvement influenced the outcomes. Service-learning teachers and coordinators felt that goals in various areas promoting service-learning quality and sustainability had been partially achieved. Specific findings included:

Younger Student Surveys

- **Service-learning students outperformed comparison students on civic knowledge.** Although both the service-learning and comparison groups received significantly higher

scores on knowledge items over time, the increase in scores was greater for the service-learning group than for the comparison group.

- **Statistically significant decreases in ratings from fall to spring were found for service-learning and comparison groups.** The comparison group had significantly higher post-survey ratings than the service-learning group for school engagement and doing things to make the neighborhood or town a better place.
- **Students who scored high on the service-learning engagement and service-learning experience measures tended to have more positive outcomes.** They 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.
- **In the service-learning group, the ratings of the female students were higher than those of male students for all outcomes.** No statistically significant differences by gender were found for the comparison group.
- **Differences in ratings across grade levels were statistically significant for service-learning students' school engagement, community attachment, civic dispositions, civic skills, civic knowledge, and service-learning engagement.** Third graders reported highest ratings for all measures, except for civic knowledge, and ratings gradually decreased as grade levels became higher.

Older Student Surveys

- **Service-learning participants were more likely to be involved in civic life and have more positive civic dispositions than their peers in the comparison group.** The service-learning group also showed statistically nonsignificant increases from fall to spring whereas the comparison group ratings decreased.
- **The service-learning group showed statistically significant increases from fall to spring in their ratings of civic dispositions while those of the comparison group slightly decreased.**
- **The service-learning group showed a statistically significant increase from fall to spring in civic knowledge scores than the comparison group.** The comparison group showed increases in their scores of civic knowledge over time, but the differences were not statistically significant.
- **Service-learning students were more likely to identify work-related skills than academic skills as primary areas of impact of participation.** The two most frequently mentioned areas were job skills and work experience, followed by reading skills, writing skills, and career awareness. Students were least likely to identify acquisition of mathematics, science, or tutoring skills.

- **Ratings of female students in the service-learning group were statistically significantly higher than those of male students for most outcomes.** Exceptions were in the areas of team skills, general problem-solving skills, and civic knowledge.
- **Several statistically significant differences were found between middle school and high school students.** Service-learning students in Grades 9-12 scored significantly higher on civic engagement, civic efficacy, civic knowledge, and service-learning engagement than service-learning students. Service-learning students in Grades 6-8 reported significantly higher ratings of valuing school than students in Grades 9-12. The comparison group showed a similar pattern.
- **Student engagement in and perceived quality of service-learning served as predictors of students' school and civic outcomes.** 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.
- **Students involved with service-learning for a longer period of time tended to have higher ratings for all outcomes.** Statistically significant differences were found for civic engagement, civic dispositions, civic problem-solving skills, and civic knowledge between students involved in service-learning for less than one month and those participating throughout the school year. Statistically significant differences in ratings were also found for service-learning outcomes between students who participated for less than a month and those who participated for longer durations, indicating students who participated in service-learning for more than a month were more likely to be engaged in and to rate the quality of service-learning highly.

Analyses of QSI indicators indicated that goals in various areas promoting service-learning quality and sustainability were partially achieved. In fall 2005, ratings were highest in the areas of teaching and learning, followed by organizational capacity, collaborations and partnerships, and schoolwide support. Ratings of results/continuous improvement were lowest. Ratings for QSI indicators in spring 2006 were somewhat higher, with highest ratings reported for collaborations and partnerships and teaching and learning. District support and results/continuous improvement received the lowest ratings.

Learn and Serve Colorado Programs

With funding from the Corporation for National and Community Service's Learn and Serve America program, Learn and Serve Colorado implemented two primary grant programs: District Service-Learning and the Innovations in Civic Learning grant. These programs addressed a variety of needs common to communities and shared a central focus on improving student achievement, increasing youth civic engagement, and recruiting volunteers of all ages.

District Service-Learning. This program provided funding to Colorado school districts, the BOCES, schools, and collaborations of LEAs with shared services agreements to develop and institutionalize high quality service-learning programs with a focus on civics. Through 3-year subgrants, the program engaged students in service experiences to increase their civic competencies including the key elements of civic skills, civic knowledge, and civic participation.

Innovations in Civic Learning. The ICL grants provided funding to Colorado school districts and the BOCES to develop and implement innovative, districtwide plans to increase students' civic competencies through high quality service-learning and civic education. Plans were implemented to address comprehensive civic learning opportunities. The Civic Learning Network provides ongoing support and technical assistance to LEAs throughout these processes.

Evaluation Activities

RMC Research conducted an evaluation that assessed the effectiveness and impact of these two programs for the 2005-2006 school year. During that period, RMC Research collected data from student surveys and from the online QSI.

Of 10 grantees that participated in the evaluation, 8 received the school district grants, 6 received ICL grants, and 4 received funding for both.

Organization of This Report

This evaluation report examines the impact of Learn and Serve Colorado 2005-2006 programs. This section is followed by a summary of the methodology used to collect and analyze data. Results and conclusions follow. The Appendix includes copies of data collection instruments.

This section summarizes the evaluation questions that guided evaluation, design, and methods used in the evaluation. Sample sizes and how the samples were selected are also described along with detailed information about data collection tools, procedures, and measures. RMC Research used surveys to collect information from students and teachers. Exhibit 1 displays the methods used.

Exhibit 1. Methods Used to Evaluate Learn and Serve Colorado

Group	Student Survey	Online Teacher Survey
Service-Learning	560	33
Comparison	173	n/a
Total	733	33

Evaluation Questions

The evaluation was designed to answer the following five questions:

1. What is the impact of service-learning participation on students' civic knowledge, skills, dispositions, and behavior?
2. To what extent has the project increased civic participation for service-learning students significantly higher than comparison students?
3. What is the impact of service-learning participation on students' academic performance?
4. What factors serve to mediate or moderate student outcomes?
5. To what extent does service-learning programming meet standards for high quality and include successful partnerships?

Sample

Except for a few new grantees, each Learn and Serve Colorado grantee was asked to identify comparison sites. Comparison sites were selected based on matching demographic and achievement characteristics to the service-learning sites in the same school district or neighboring district. Whenever possible, comparison classrooms were identified for the service-learning classrooms in the same school. In some cases, comparison classrooms were identified in a school that was in the same school district as the service-learning site. Incentives were given to the classroom with the highest pre- and post-survey return rate. Of 20 schools, 7 schools identified both service-learning and comparison classrooms; 4 schools served solely as comparison sites.

A total of 733 students from 10 elementary, 5 middle, 2 high, 1 K-7, and 2 K-12 schools participated in the survey. There were 560 students in the service-learning group and 173 in the comparison group. The younger student sample consisted of 447 students (330 service-learning and 117 comparison); the older student sample had 286 students (230 service-learning and 56 comparison).

Service-learning teachers and others involved in the implementation of service-learning as part of the Learn and Serve Colorado program were asked to complete the online QSI during the 2005-2006 school year. The QSI was completed by 24 respondents in the fall of 2005 and 16 respondents in the spring of 2006, representing nine and six school districts respectively. Seven respondents completed both the fall and the spring QSI.

Methods of Data Collection

Student Surveys

Students completed surveys at the beginning and end of the 2005-2006 school year. The survey for younger students was administered to students in Grades 3-5. The survey for older students was administered to students in Grades 6-12. The younger student version was administered to the Grade 6 classroom in the elementary school.

Student surveys included measures of school, civic, and service-learning outcomes. The school outcomes in the survey addressed students' levels of school engagement. The civic outcomes included students' civic engagement, dispositions, skills, and knowledge. Students' engagement and experience in service-learning were measured only in the post-survey for the service-learning students. The older student survey had a variety of subscales in measures listed below, 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.

Engagement in Schools

- The *school engagement* measure was designed to assess students' affective, behavioral, and cognitive engagement at school.
- The *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).
- The measure of *valuing school* was assessed through questions examining the degree to which students felt that their school work was meaningful and worthwhile.

Civic Development and Engagement

- The *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* measured students' involvement in the community (e.g., 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.
- The measure of students' *civic dispositions* assessed students' sense of social responsibility and tolerance toward diversity through questions about the degree to which students 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 Educational Progress (NAEP) about the branches of government, democratic process, civic responsibility, and related items.

Characteristics of Service-Learning Experience

- The *service-learning engagement* measure included items that measure students' affective, behavioral, and cognitive involvement in service-learning.
- The *service-learning experience* measure included items that asked about student responses to 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 made in the preliminary survey design process regarding underlying constructs of the surveys. 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. Seven scales were formed for the younger student survey and 11 scales were formed for the older student survey.

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

Scales for the younger student survey included school engagement, community attachment, civic dispositions, civic skills, civic knowledge, service-learning engagement, and service-learning experience, which all had acceptable to high internal consistency.² Pre-survey items that measured civic engagement had low internal consistency; thus the items for this scale were analyzed individually. All of the scales for the older student survey had high internal consistency. The scales included school engagement, valuing school, civic engagement, civic efficacy, civic dispositions, attitudes toward diversity, team skills, general problem-solving skills, civic problem-solving skills, civic knowledge, service-learning engagement, and service-learning experience. Cronbach's alphas³ for each of the scaled variables for the younger and older student surveys are summarized in Exhibits 2 and 3.

**Exhibit 2. Internal Consistency for Scaled Variables
Younger Students (N = 447)**

	N	Cronbach's Alpha (Pre-Survey)	N	Cronbach's Alpha (Post-Survey)	Number of Items
School Engagement	420	.73	433	.77	8
Community attachment	442	.45	444	.65	2
Civic Dispositions	437	.63	438	.72	3
Civic Skills	437	.67	435	.72	5
Service-Learning Engagement		n/a	316	.75	3
Service-Learning Experience		n/a	311	.79	5

Note: Student responses were rated on a 4-point Likert-type scale where 1 = Strongly Disagree and 4 = Strongly Agree.

**Exhibit 3. Internal Consistency for Scaled Variables
Older Students (N = 286)**

	N	Cronbach's Alpha (Pre-Survey)	N	Cronbach's Alpha (Post-Survey)	Number of Items
School Engagement	251	.76	269	.77	8
Valuing School	277	.79	279	.78	4
Civic Engagement	269	.77	280	.79	7
Civic Efficacy	282	.79	286	.75	2
Civic Dispositions	270	.76	277	.81	5
Attitudes Toward Diversity	278	.74	283	.79	2
Team Skills ^a	269	.77	268	.79	7
General Problem-Solving Skills	267	.79	278	.82	6
Civic Problem-Solving Skills	278	.68	283	.76	2
Service-Learning Engagement		n/a	225	.88	3
Service-Learning Experience		n/a	216	.80	8

Note: Student responses were rated on a 4-point Likert-type scale where 1 = Strongly Disagree and 4 = Strongly Agree, except for the scale for service-learning experience, where 1 = Never/Almost Never and 5 = Always/Almost Always.

^a Two items measuring students' leadership and communication skills were dropped from this scale because they did not cluster with other team skill items.

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

³ Cronbach'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.

Teacher Online Quality and Sustainability Index (QSI)

In the fall 2005 and in spring 2006, service-learning coordinators, classroom teachers, and others implementing service-learning completed the QSI. The tool was developed by State Education Agency K-12 Service-Learning Network (SEANet) and 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 achieved in the fall and the spring using a 5-point scale where 1 = not achieved, 2 = partially achieved, 3 = mostly achieved, 4 = completely achieved, and 5 = don't know/not applicable. Eight indicators were created by averaging responses across to individual items. Each of the indicators is described below:

- ***Policy and Leadership*** (7 items): 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.
- ***Organizational Capacity*** (7 items): adequacy of funding, professional development, and coordination capacity; linkage to school improvement efforts; flexibility in terms of scheduling and transportation; and incentives for implementation.
- ***Collaborations and Partnerships*** (7 items): public awareness of service-learning activities; effective partnerships with community organizations; and community, parent, district, and school board support.
- ***Teaching and Learning*** (16 items): 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.
- ***Results/Continuous Improvement*** (3 items): visibility and recognition of benefits of service-learning, use of evaluation to demonstrate impact, and presence of intentional replication practices.
- ***Schoolwide Support*** (5 items): school culture that supports service-learning; presence of onsite champions; routine implementation; and open communication, reward, recognition, and celebration activities.
- ***Collegial Support*** (4 items): teacher belief in the positive impact of service-learning, recognition of importance, and commitment to teaching with service-learning.
- ***District Support*** (11 items): integration of service-learning into district mission, vision, policies, and professional development; presence of district coordinator, advisory committee, and effective partnerships; provision of adequate funding and in-kind support; and linkage to federal, state, and district initiatives.

Data Analyses

To investigate the impact of participation in service-learning on students' school and civic outcomes, analyses of covariance (ANCOVA)⁴ were conducted on student's post-survey responses, controlling for differences in responses on the pre-survey. A series of paired-samples *t* tests⁵ were conducted to investigate the magnitude of change over time for the service-learning and comparison groups, after controlling the differences on the pre-test. Analyses of variance (ANOVAs)⁶ were conducted on students' post-survey responses to determine if outcomes varied by gender and grade level. Regression analysis⁷ using a multivariate analysis of variance (MANOVA)⁸ was conducted on students' post-survey responses to examine whether outcomes were influenced by the extent to which students were engaged in service-learning and the quality of the service-learning experience. For older students only, ANOVAs were also conducted to determine if duration of service-learning influenced student outcomes, followed by Tukey HSD tests (Honestly Significant Difference)⁹ to examine subgroup differences.

Since only seven respondents completed the QSI at both points in time, descriptive data are presented separately for fall and spring. Due to an extremely small sample size, no statistical tests of significance were conducted.

A copy of the post student surveys in English may be found in the Appendix. Pre-surveys and Spanish surveys can be provided upon request.

⁴Analysis of covariance (ANCOVA) is a statistical procedure that examines differences in outcomes for two or more groups while controlling for characteristics not associated with the intervention, such as respondent demographics or responses on a pre-survey.

⁵Paired-samples *t* tests are a statistical measurement used to determine differences between matched pre- and post-survey responses for a group.

⁶Analysis of variance (ANOVA) is a statistical tool that measures the differences between two or more groups.

⁷Regression analysis is a statistical tool that examines the relationships among two or more variables.

⁸Multivariate analysis of variance 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.

⁹Tukey HSD is one of the post hoc comparison procedures used to test for significant differences between groups.

This section describes the results of the younger student survey analysis, followed by the older student survey analysis.

Younger Student Survey Results

Student Demographics

The younger student sample included 447 students in Grades 3-6, with 330 in the service-learning group and 117 in the comparison group. Exhibit 4 displays a demographic profile of the younger students. There was a slightly larger number of female students than male students in the sample for both groups. The service-learning group was dispersed more across grade levels than the comparison group. More than 80% of the comparison students were in Grades 4 and 5, as compared to about 60% in the service-learning group.

Exhibit 4. Demographic Characteristics of Younger Students (N = 447)

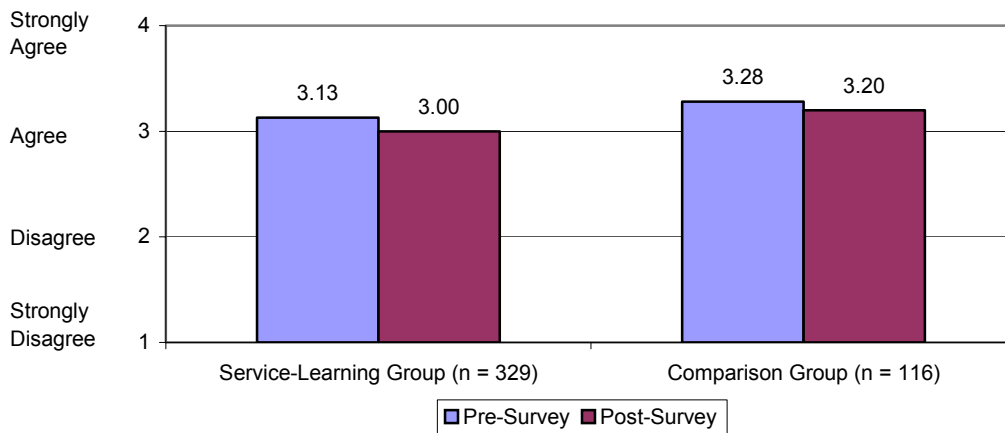
	Service-Learning (N = 330)		Comparison (N = 117)	
	N	Percent	N	Percent
Grade				
3	77	23.3	9	7.7
4	114	34.5	60	51.3
5	87	26.4	39	33.3
6	52	15.8	9	7.7
Gender				
Male	156	47.3	50	42.7
Female	174	52.7	67	57.3

Comparison of Service-Learning and Comparison Groups on Student Outcomes

Students' School Engagement

Students' ratings of the degree to which they were engaged in and attached to school are presented in Exhibit 5. The ratings of school engagement significantly declined from fall to spring for both groups ($p < .001$ and $p < .05$ respectively), and statistically significant differences were found between the service-learning and comparison groups. The comparison group had higher ratings for this measure than the service-learning group in the spring ($p < .05$).

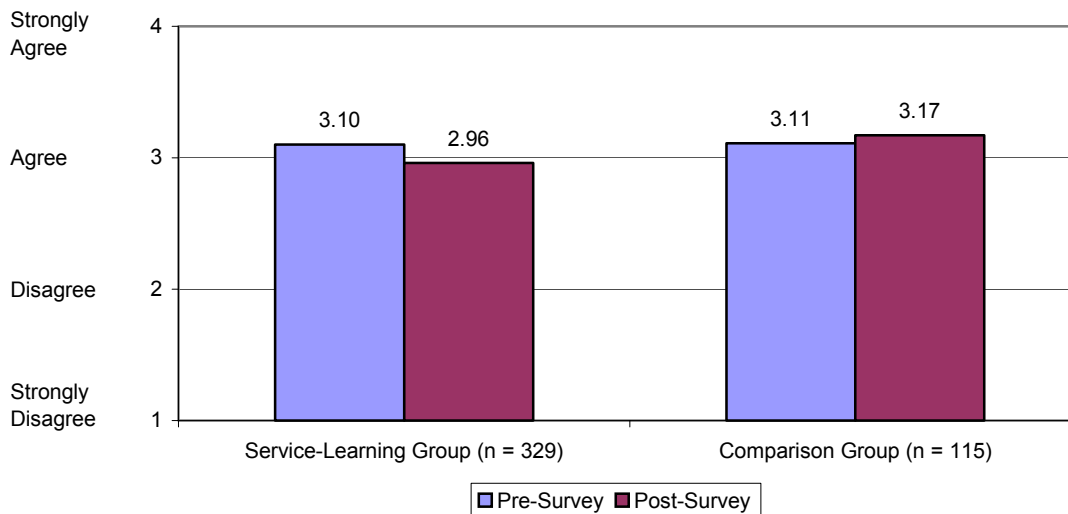
Exhibit 5. Service-Learning and Comparison Student Ratings of School Engagement



Students' Community Attachment

Exhibit 6 presents students' ratings of the degree to which they were attached to their community. The items, *I feel proud of my neighborhood or town* and *I do things to make my neighborhood or town a better place*, were analyzed individually. The service-learning and comparison groups showed declines in ratings from fall to spring for the former item; however, for a latter item, a decline in ratings was found for the service-learning group and an increase for the comparison group. Differences in ratings were statistically significant for the service-learning group ($p < .01$). A statistically significant difference was also found between the service-learning and comparison students for this item. Comparison students reported higher ratings on this item in the spring than service-learning students ($p < .01$).

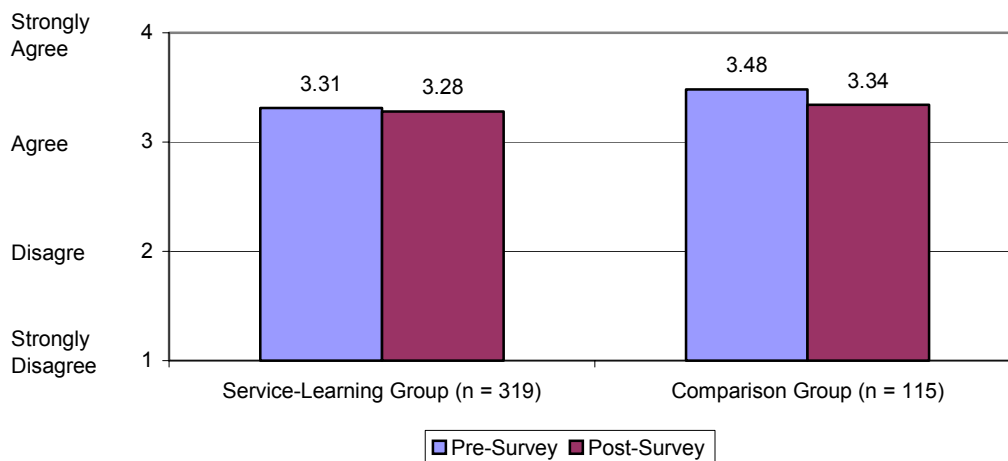
Exhibit 6. Service-Learning and Comparison Student Ratings of the Item, "I do things to make my neighborhood or town a better place."



Students' Civic Dispositions

Exhibit 7 presents ratings of students' levels of civic dispositions. Both service-learning and comparison students demonstrated decreases in ratings for this measure over time, with statistically significant decreases reported for the comparison group ($p < .01$). No statistically significant differences were found between the two groups.

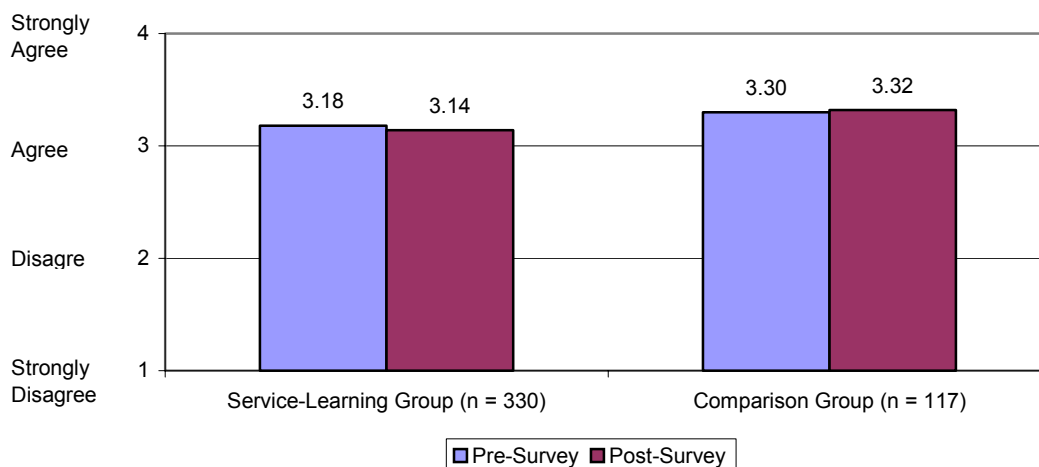
Exhibit 7. Service-Learning and Comparison Students' Ratings of Civic Dispositions



Students' Civic Skills

Students' ratings of the degree to which they possessed civic skills are presented in Exhibit 8. The service-learning group showed a slight decrease in ratings while the comparison group showed a slight increase; however, none of these differences in ratings were statistically significant. Post-survey ratings of civic skills were significantly higher for the comparison group than for the service-learning group ($p < .01$).

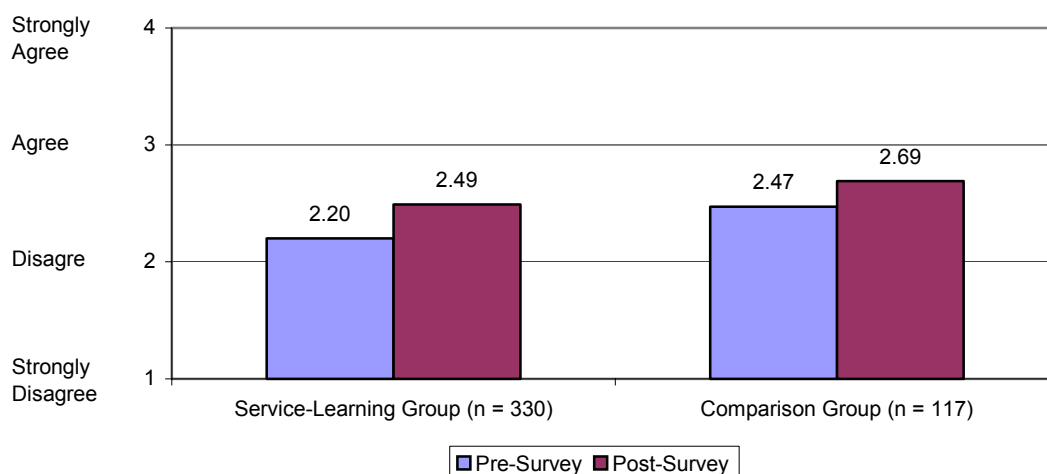
Exhibit 8. Service-Learning and Comparison Student Ratings of Civic Skills



Students' Civic Knowledge

Students were asked a number of factual questions about government and civics. As depicted in Exhibit 9, both the service-learning and comparison groups scored significantly higher on significantly higher scores on knowledge items over time ($p < .001$ and $p < .05$ respectively). No statistically significant group differences were found for this measure.

Exhibit 9. Service-Learning and Comparison Student Ratings of Civic Knowledge



Older Student Survey Results

Student Demographics

Exhibit 10 presents a demographic profile of the older student sample. Of 286 students that comprised the sample, 230 were service-learning students and 56 were comparison group students. The demographic characteristics of the service-learning and comparison groups were somewhat different in terms of grade level and gender. The service-learning group sample represented Grades 6-12, with more than 60% in Grades 6-8. The comparison group sample had more than 70% of students in Grades 6 and 10. There were more female students than male students in the service-learning group sample whereas the comparison group had an equal number of male and female students. In both groups, the largest ethnic group represented was White, followed by Hispanic students. The majority of students spoke English at home.

Exhibit 10. Demographic Characteristics of Older Students (N = 286)

	Service-Learning (N = 230)		Comparison (N = 56)	
	N	Percent	N	Percent
Grade				
6	57	24.8	22	39.3
7	41	17.8	5	8.9
8	43	18.7	0	0.0
9	21	9.1	0	0.0
10	24	10.4	18	32.1
11	21	9.1	1	1.8
12	23	10.0	10	17.9
Gender				
Male	83	36.1	28	50.0
Female	147	63.9	28	50.0
Not specified				
Ethnicity^a				
White	205	89.1	42	75.0
Hispanic/Latino	18	7.8	13	23.2
Asian/Pacific Islander	8	3.5	3	5.4
Black/African American	6	2.6	1	1.8
American Indian/Alaskan Native	2	0.9	1	1.8
Other	17	7.4	2	3.6
Language Spoken at Home				
English	219	95.2	52	92.9
Spanish	7	3.0	4	7.1
Other	4	1.8	0	0.0

^a Percentages do not sum to 100 because respondents could select more than one answer.

Student Involvement in Extracurricular and Service Activities

Exhibit 11 shows a similar pattern of participation in extracurricular activities for students in both participant and comparison groups with about 90% of each group reporting that they participated in sports. The next highest percentages were for service clubs and leadership groups. Students in both groups also participated in a variety of other extracurricular activities. More than one third of the service-learning group and about one fourth of the comparison group participated in academic and other clubs and reported having jobs. Less than 4% of students in both groups reported no extracurricular participation. The data show that participation in extracurricular activities was higher for the service-learning group than for the comparison group.

Nearly 60% of the service-learning group and nearly half of the comparison group reported performing service in school. More than 40% of the service-learning group reported performing services with the church and with youth organizations, with 30% volunteering with their family. In the comparison group, nearly one third or more served with their church and their family, about 20% served with youth organizations. Six percent of the service-learning group and 18% of the comparison group had no prior experience with service, indicating the service-learning group students were more involved in service activities than their peers in the comparison group.

Exhibit 11. Student Participation in Extracurricular and Service Activities (N = 286)

	Service-Learning (N = 230)		Comparison (N = 56)	
	N	Percent	N	Percent
Activities				
Sports	205	89.7	50	89.3
Service club	115	50.0	19	33.9
Student leadership groups	98	42.6	19	33.9
Other clubs	91	39.6	14	25.0
Job	91	39.6	13	23.2
Academic club	80	34.8	15	26.8
No extracurricular activities	4	1.7	2	3.6
Service Experience				
In school	135	58.7	26	46.4
With a church	103	44.8	21	37.5
With a youth organization	99	43.0	11	19.6
With family	70	30.4	18	32.1
With neighborhood	33	14.3	4	7.1
No prior experience with service	14	6.1	10	17.9

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

Student Academic Achievement

As shown in Exhibit 12, the majority of students in both groups reported earning “mostly A’s” or “mostly B’s.” Less than one fifth of students in both groups reported earning ‘mostly C’s’ or below.

Exhibit 12. Students’ Self-Report of Grades (N = 286)

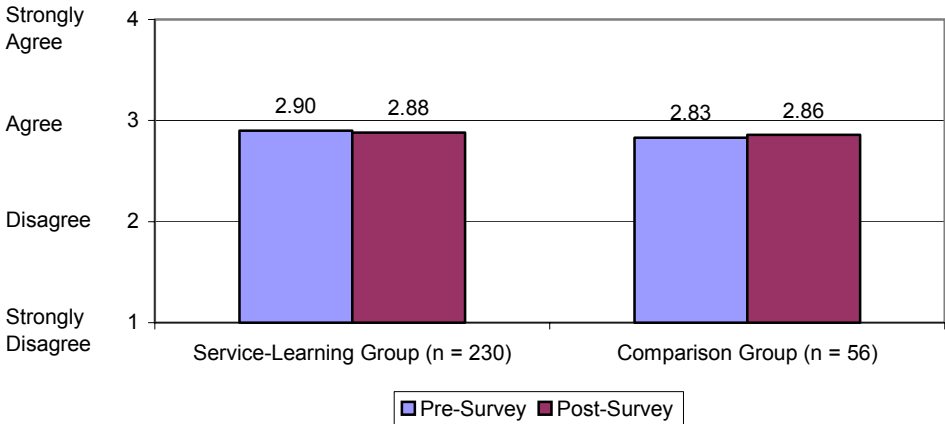
Grades	Service-Learning (N = 230)		Comparison (N = 56)	
	N	Percent	N	Percent
Mostly A’s	132	57.4	25	44.6
Mostly B’s	61	26.5	23	41.1
Mostly C’s	25	10.9	7	12.5
Mostly D’s	2	0.9	0	0.0
Not specified	10	4.3	1	1.8

Comparison of Service-Learning and Comparison Groups

Students' School Engagement

Exhibit 13 presents ratings of the degree to which students were engaged in and attached to school. The service-learning group showed a slight decrease in their ratings while the comparison group showed increased ratings for this measure from fall to spring. No statistically significant differences were found between the service-learning and comparison groups or for changes over time.

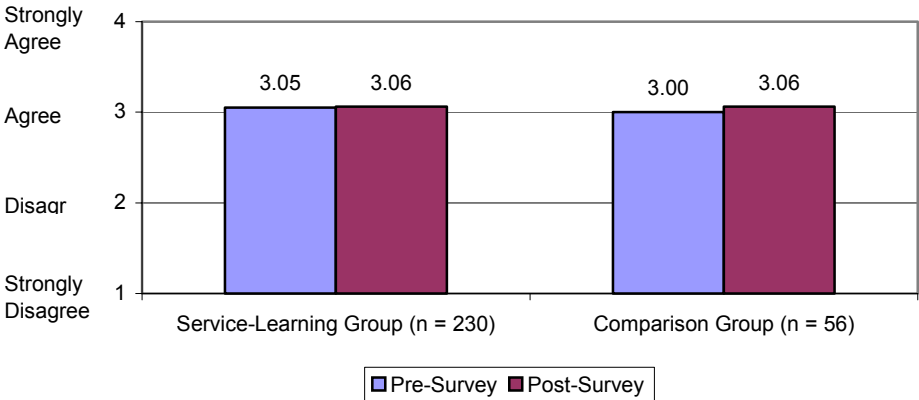
Exhibit 13. Service-Learning and Comparison Students' Ratings of School Engagement



Students' Valuing School

Both the service-learning and comparison groups showed slight increases in ratings from fall to spring on measures of valuing school, as demonstrated in Exhibit 14, but the differences were not statistically significant. No statistically significant differences in ratings were found for this measure between the service-learning and comparison students.

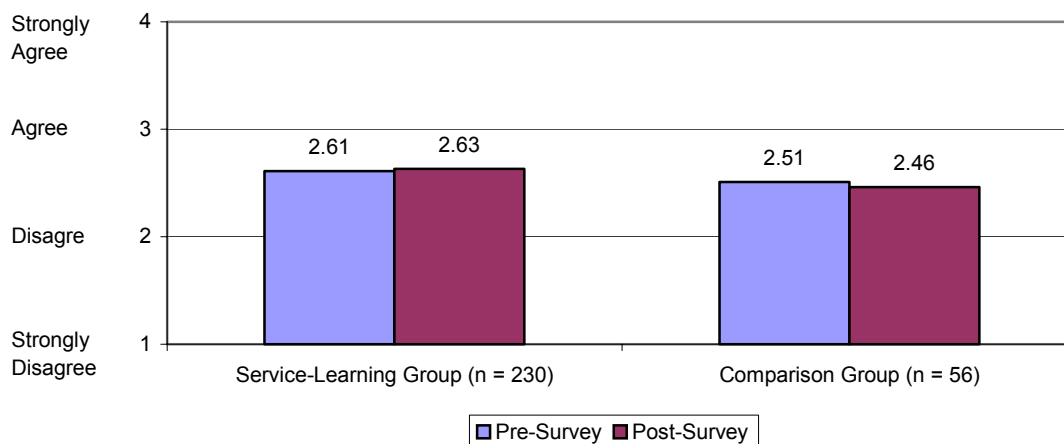
Exhibit 14. Service-Learning and Comparison Students' Ratings of Valuing School



Students' Civic Engagement

Although statistically nonsignificant, the service-learning group showed increases in their ratings of civic engagement from fall to spring whereas comparison group ratings decreased. Spring ratings for the service-learning group were higher than those of the comparison group. Differences in ratings between the two groups approached statistical significance ($p = .051$). Exhibit 15 displays these results.

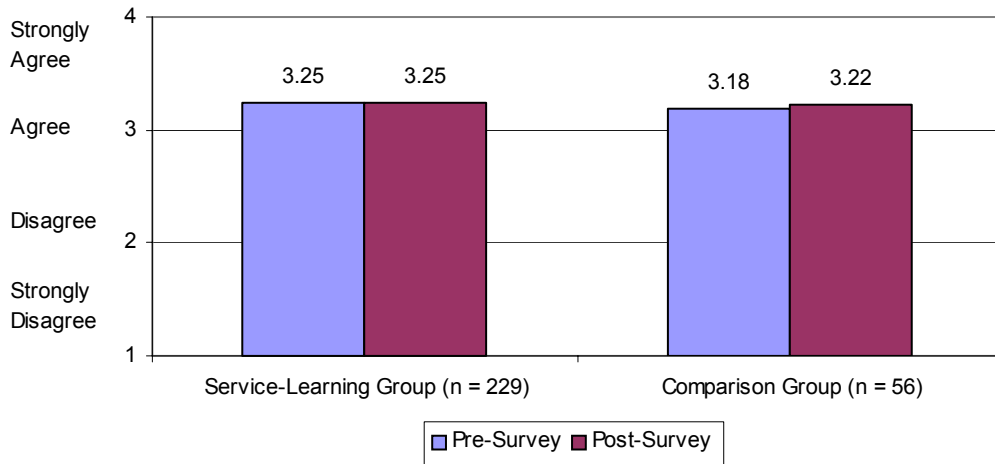
Exhibit 15. Service-Learning and Comparison Students' Ratings of Civic Engagement



Students' Civic Efficacy

Exhibit 16 presents ratings of the degree to which students felt a sense of civic efficacy. The service-learning group's ratings stayed constant from fall to spring while the comparison group demonstrated a slight increase in ratings. However, these differences in ratings were not statistically significant over time or between groups.

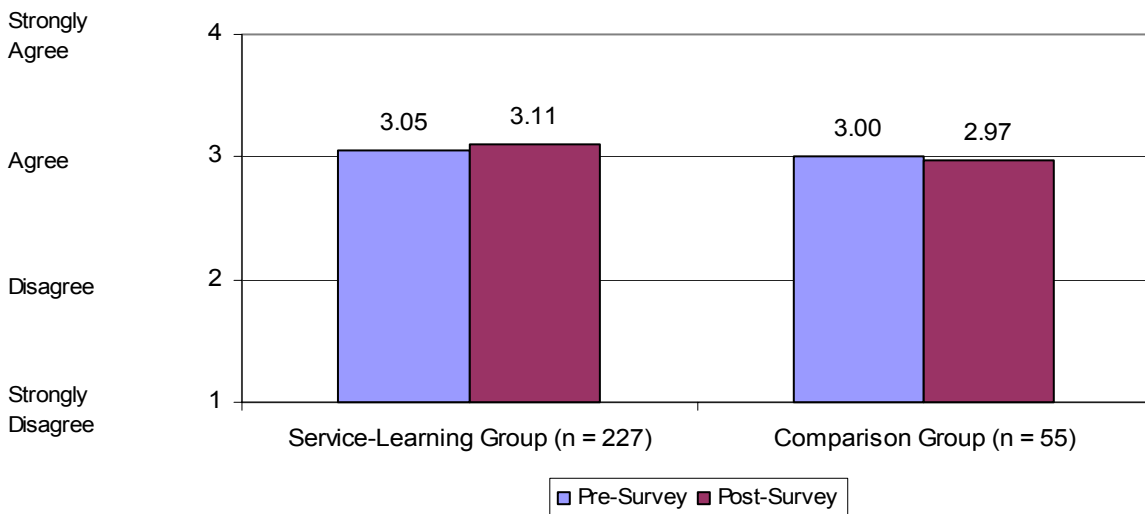
Exhibit 16. Service-Learning and Comparison Students' Ratings of Civic Efficacy



Students' Civic Dispositions

Students' ratings of the degree to which they had positive civic dispositions are presented in Exhibit 17. The service-learning group showed statistically significant increases from fall to spring in their ratings of civic dispositions ($p < .05$) and ratings of the comparison group decreased. There were also marginally significant differences between the service-learning and comparison groups for this measure ($p = .083$), indicating the service-learning group had more positive civic dispositions than comparison group students.

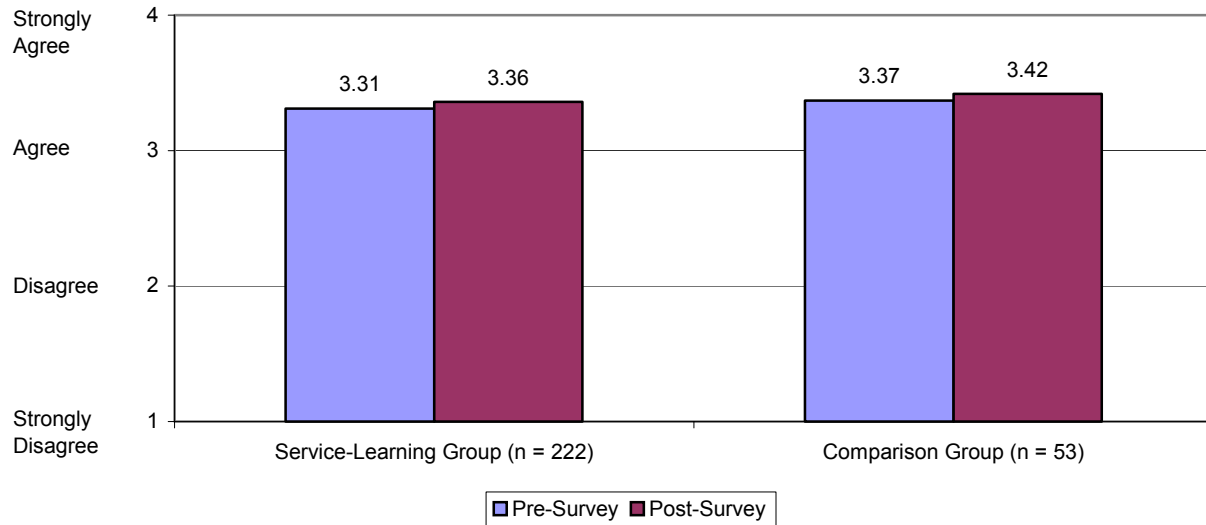
Exhibit 17. Service-Learning and Comparison Students' Ratings of Civic Dispositions



Students' Attitudes Toward Diversity

Exhibit 18 presents students' ratings of their attitudes toward diversity (e.g., different views or cultures). Both the service-learning and comparison groups showed slight increases from fall to spring, but the differences in ratings were not statistically significant over time or between groups.

Exhibit 18. Service-Learning and Comparison Students' Ratings of Civic Engagement



Students' Civic Skills

As shown in Exhibits 19, 20, and 21, the service-learning and comparison groups demonstrated a similar trend for the team skills and general problem-solving skills subscales. Ratings of both groups for these measures slightly increased from fall to spring. A different pattern was found for civic problem-solving skills. Ratings of civic problem-solving skills for the service-learning group slightly decreased while those for the comparison group significantly increased over time ($p < .05$). No statistically significant group differences were found.

Exhibit 19. Service-Learning and Comparison Students' Ratings of Team Skills

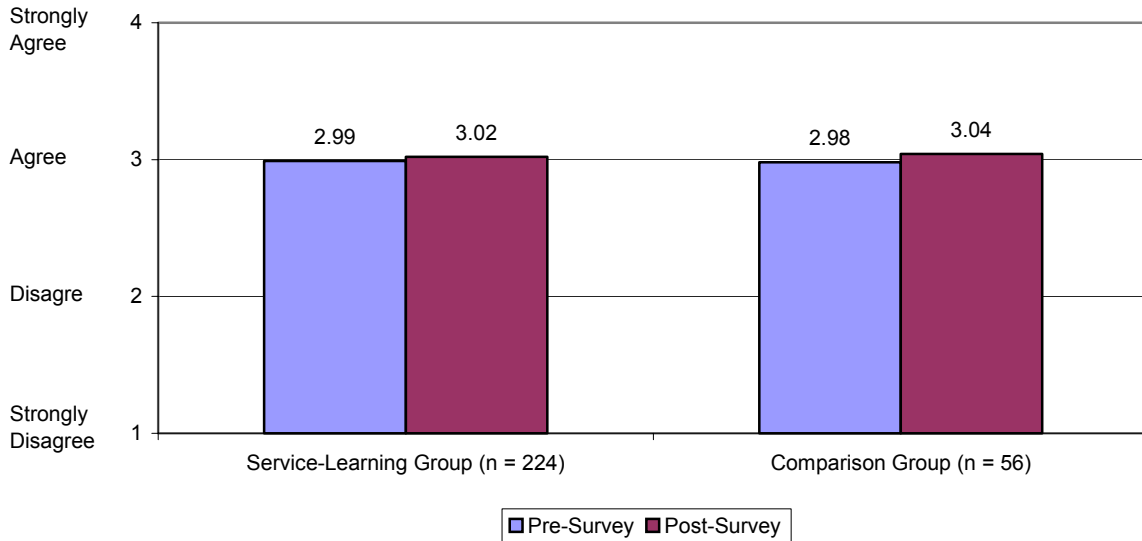


Exhibit 20. Service-Learning and Comparison Students' Ratings of General Problem-Solving Skills

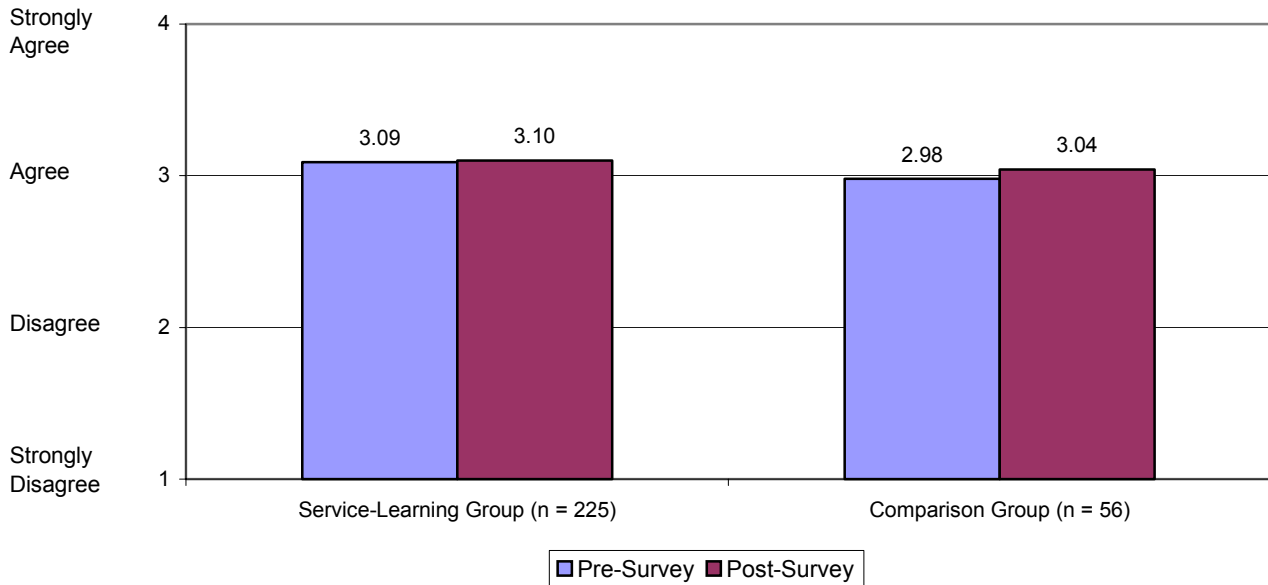
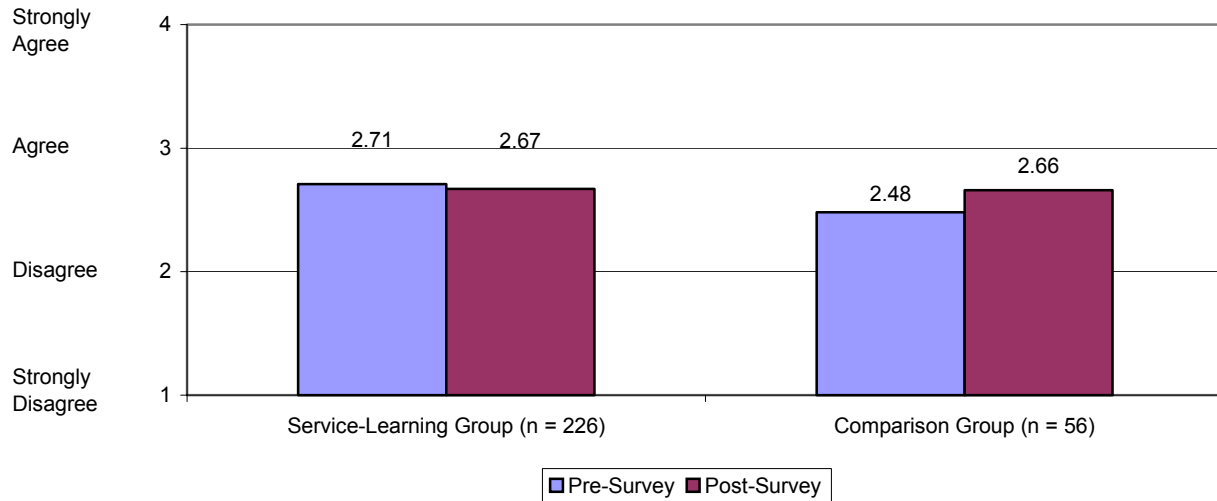


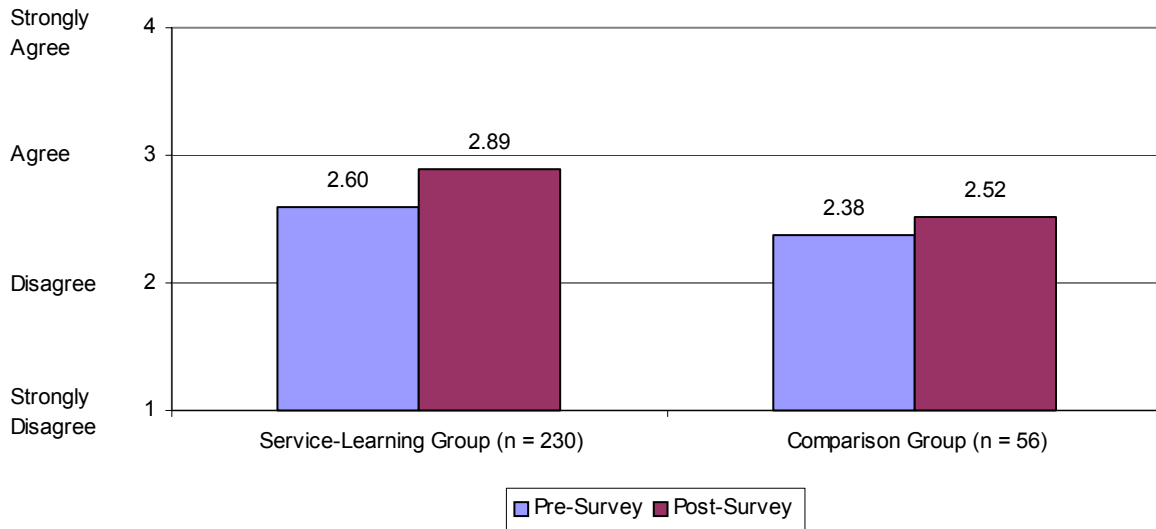
Exhibit 21. Service-Learning and Comparison Students' Ratings of Civic Problem-Solving Skills



Students' Civic Knowledge

Exhibit 22 displays students' scores on the civic knowledge items. Both the service-learning and comparison groups showed increases in their scores on civic knowledge over time, with a statistically significant increase reported for the service-learning group ($p < .001$). Although no statistically significant group differences were found, post-survey scores for the service-learning group were higher than those of the comparison group.

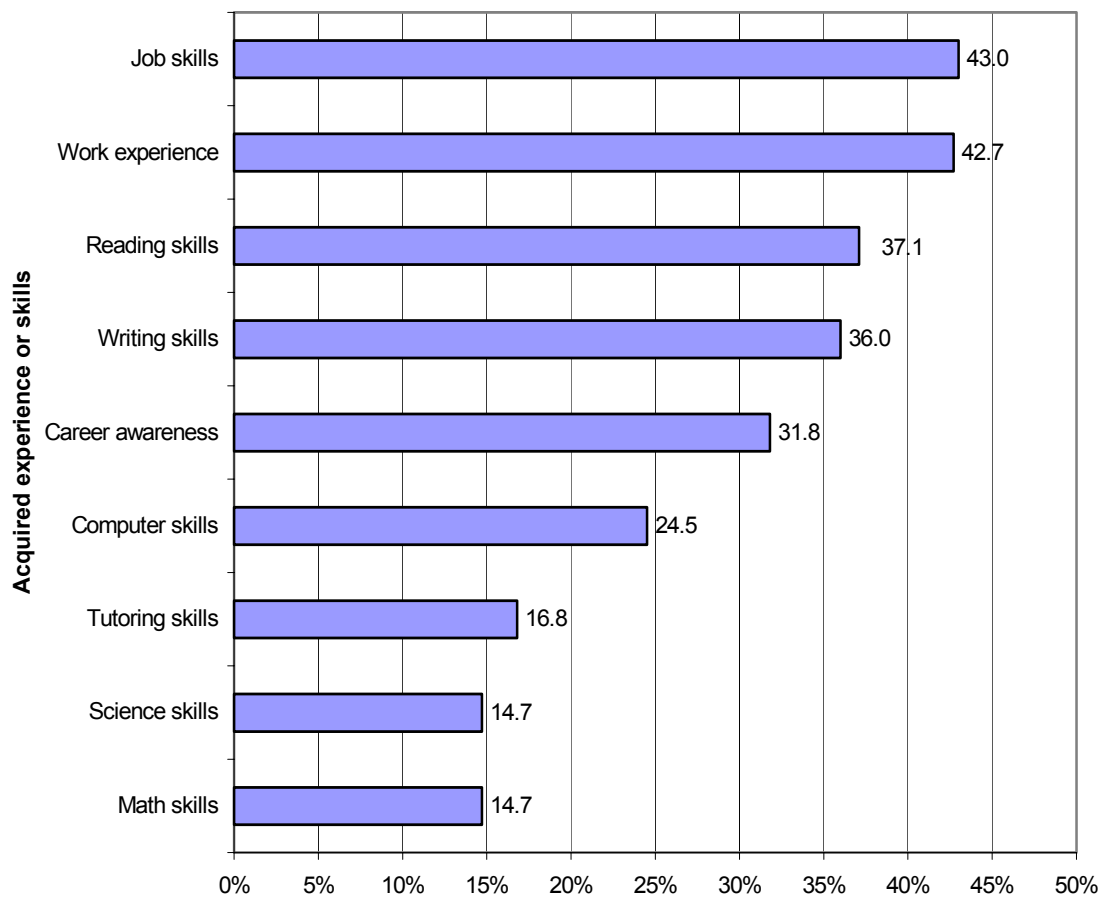
Exhibit 22. Service-Learning and Comparison Students' Ratings of Civic Knowledge



Students' Perceptions of Benefits Acquired

Finally, students were asked to indicate which of several skills and experience they acquired as a result of participating in service-learning. As shown in Exhibit 23, 43% of students were most likely to identify job skills and work experience as primary areas of impact, followed by reading skills (37%), writing skills (36%), and career awareness (32%). Students were least likely to identify acquisition of mathematics, science, or tutoring skills.

Exhibit 23. Perceived Benefits Acquired Through Participation in Service-Learning (N = 286)



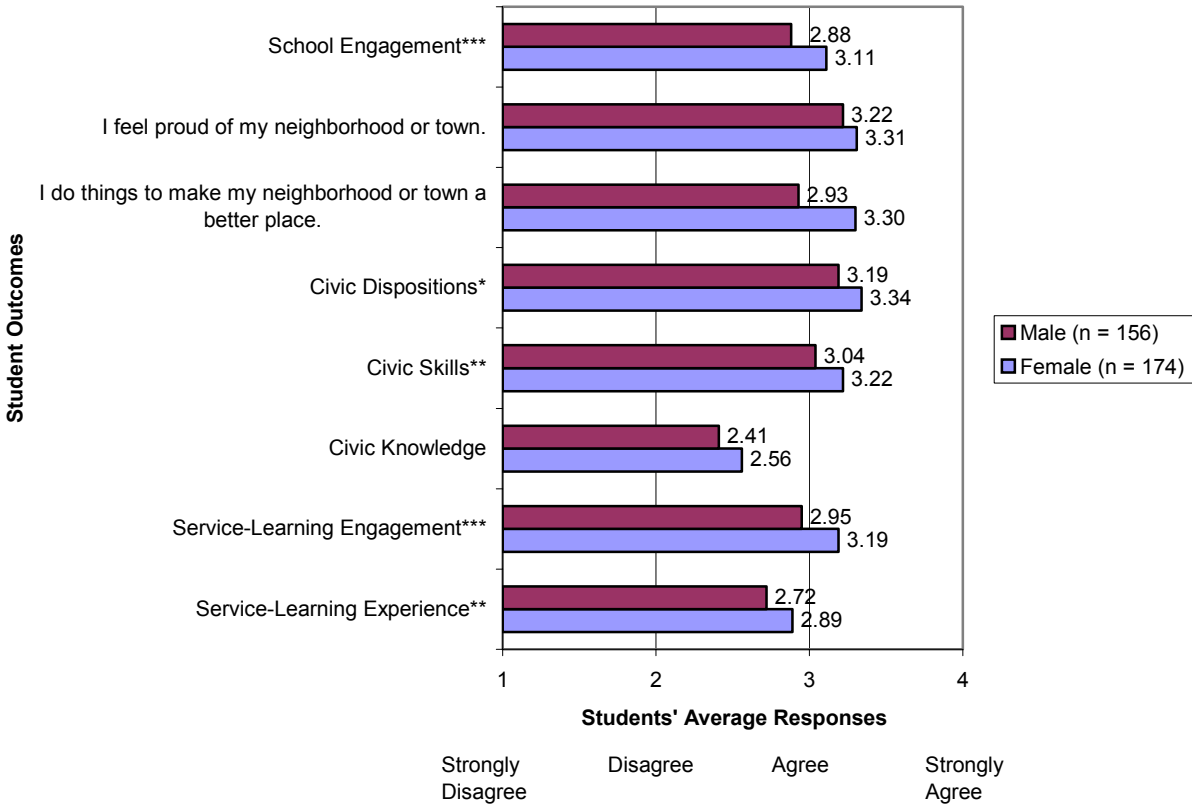
This section describes the results of analyses investigating if student outcomes differed by subgroup, such as gender and grade levels.

Younger Students

Gender

The ratings of younger student outcomes by gender are shown in Exhibit 24. In the service-learning group, the ratings of the female students were higher than those of male students for all outcomes. Statistically significant differences were found for school engagement, civic dispositions, civic skills, service-learning engagement, and service-learning experience for the service-learning group. The comparison group had a mixed pattern. Female students had higher ratings for school engagement, civic dispositions, and civic knowledge while male students had higher ratings for two community attachment items and civic skills. No statistically significant differences by gender were found for the comparison group.

Exhibit 24. Younger Service-Learning Students’ Post-Survey Ratings by Gender

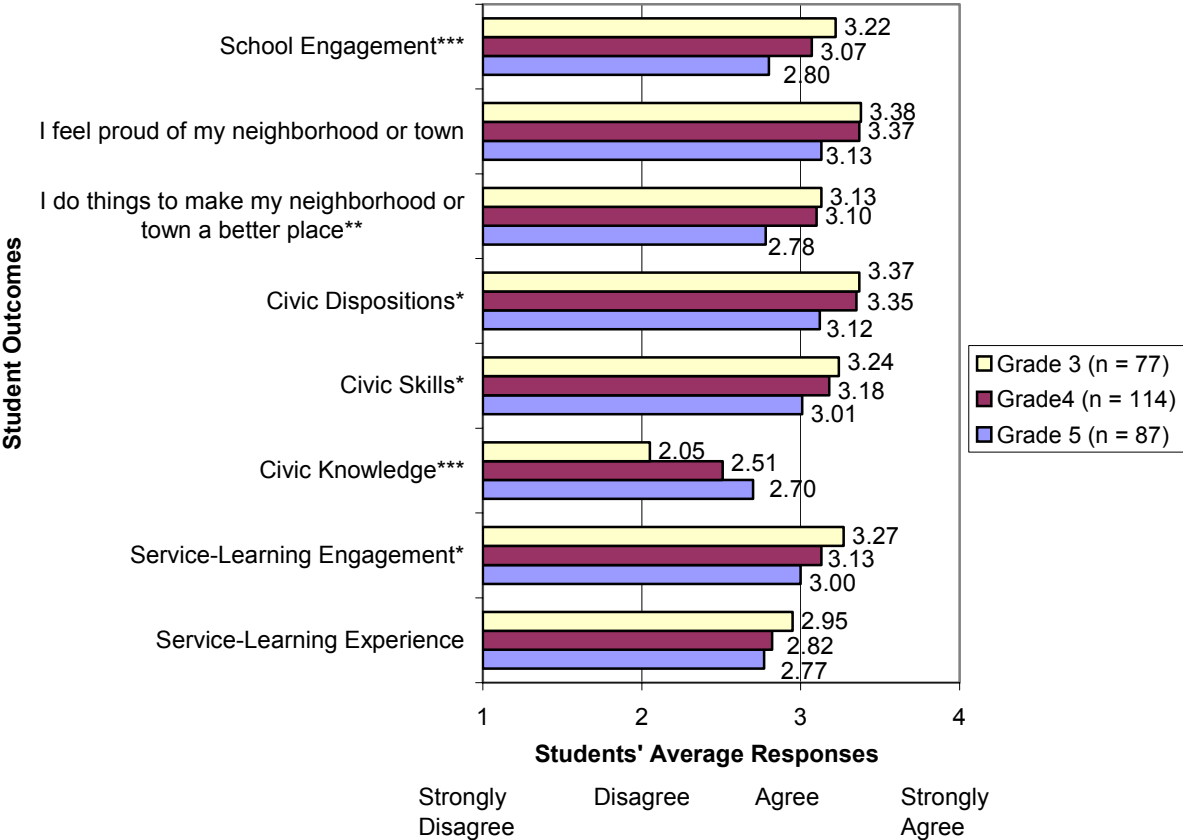


*p < .05, **p < .01, ***p < .001. The actual sample sizes for each measure varied slightly.

Grade Level

Exhibit 25 shows the ratings of younger student outcomes by grade level. Sixth grade was excluded from analyses due to a small sample size. Statistically significant differences in ratings were found for the service-learning group, with differences in ratings across grade level being significant for students’ school engagement, community engagement, civic dispositions, civic skills, civic knowledge, and service-learning engagement. Third-grade students had highest ratings for all measures, except for civic knowledge. Ratings gradually decreased as grade levels became higher, with 5th-grade students having the lowest ratings. No statistically significant results were found for the comparison group except for civic knowledge where higher grade students scored higher than those in the lower grades ($p < .001$).

Exhibit 25. Younger Service-Learning Students’ Post-Survey Ratings by Grade Level



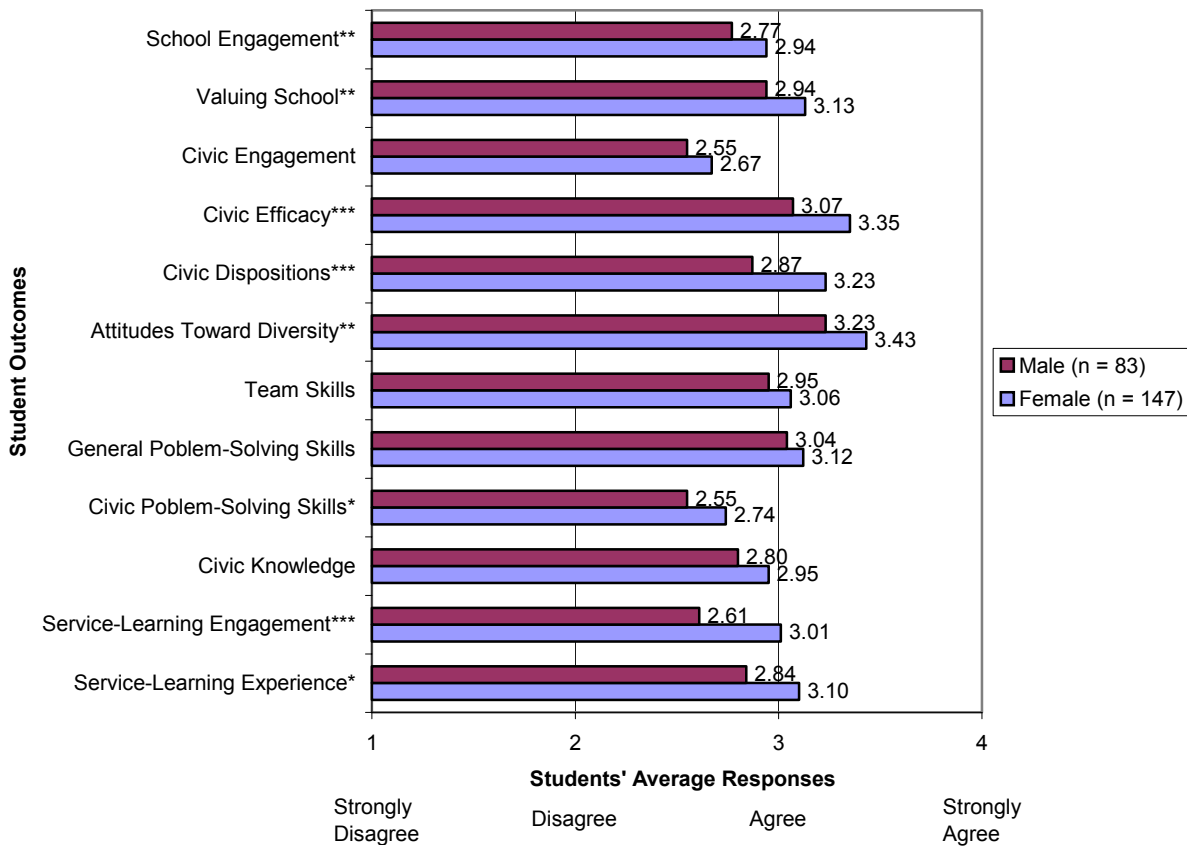
* $p < .05$, ** $p < .01$, *** $p < .001$. The actual sample sizes for each measure slightly varied.

Older Students

Gender

When differences by gender were examined, regardless of the group, female students had higher ratings than their male peers on almost all outcomes. As shown in Exhibit 26, ratings of female students in the service-learning group were statistically significantly higher than male students for all outcomes, except for team skills, general problem-solving skills, and civic knowledge. No statistically significant results were found for the comparison group.

Exhibit 26. Older Service-Learning Students' Post-Survey Ratings by Gender



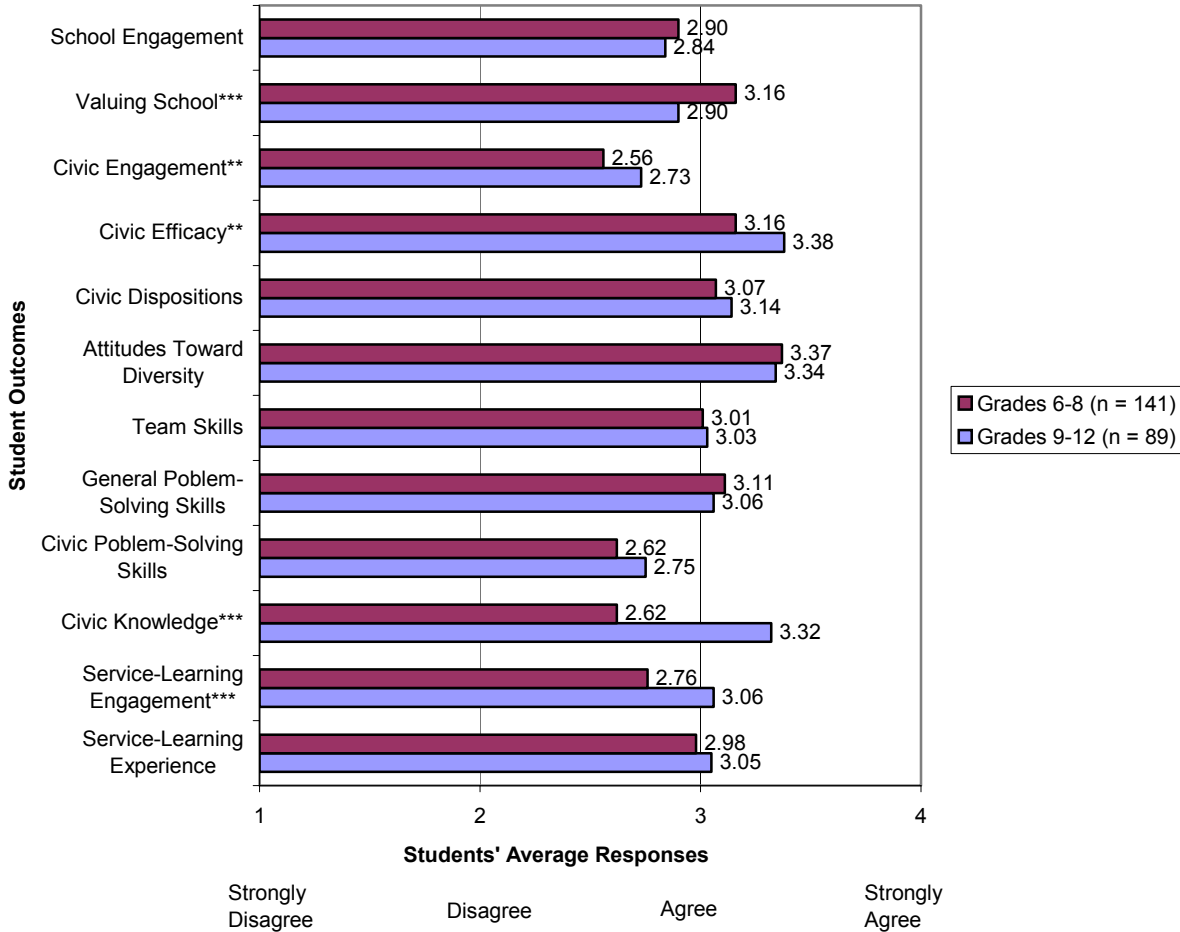
The scale for service-learning experience was 1 = Never/Almost Never and 5 = Always/Almost Always.
 * $p < .05$, ** $p < .01$, *** $p < .001$. The actual sample sizes for each measure slightly varied.

Grade Level

Students from Grades 6-12 were grouped into two categories, middle school students (Grades 6-8) and high school students (Grades 9-12), to determine if there were differences between these two groups. As shown in Exhibit 27, the service-learning group students in Grades 9-12 tended to have higher ratings than students in Grades 6-8, except for school engagement, valuing school, attitudes toward diversity, and general problem-solving skills. In Grades 6-8, students' ratings were significantly higher for valuing school than for students in Grades 9-12. Students in Grades

9-12 scored significantly higher than students in Grades 6-8 on civic engagement, civic efficacy, civic knowledge, and service-learning engagement. The comparison group showed a similar pattern, with students in Grades 9-12 rating higher on all but one measure (civic problem-solving skills), with significant differences in ratings reported for civic efficacy ($p < .05$), team skills ($p < .01$), and civic knowledge ($p < .001$).

Exhibit 27. Older Service-Learning Students' Post-Survey Ratings by Grade Level



The scale for service-learning experience was 1 = Never/Almost Never and 5 = Always/Almost Always. * $p < .05$, ** $p < .01$, *** $p < .001$. The actual sample sizes for each measure slightly varied.

This section examines the extent to which several factors influenced the student outcomes that were found. Several aspects of the service-learning experience, such as students’ level of engagement in and perceived quality of service-learning projects and duration of service-learning, are examined.

Associations Between Student Engagement in Service-Learning and Outcomes

Student ratings of service-learning implementation were consistently related to all of the student outcomes. Service-learning engagement and service-learning quality were positively associated with student outcomes for students in Grades 3-5 and Grades 6-12. Exhibits 28 and 29 display the size of the 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. Older students who were highly engaged in service-learning and participated in high quality service learning tended to have higher scores on civic knowledge.

Exhibit 28. Relationship Between Service-Learning Engagement and Student Outcomes (Grades 3-5)

Dependent Variable	F	p
School Engagement.	185.88	.000
I feel proud of my neighborhood or town.	96.07	.000
I do things to make my neighborhood or school a better place.	79.02	.000
Civic Dispositions	113.39	.000
Civic Skills	201.26	.000
Civic Knowledge	2.51	.114

Exhibit 29. Relationship Between Service-Learning Engagement and Student Outcomes (Grades 6-12)

Dependent Variable	F	p
School Engagement	37.30	.000
Valuing School	19.37	.000
Civic Engagement	65.10	.000
Civic Efficacy	43.50	.000
Civic Dispositions	99.32	.000
Civic Skills – Team Skills	48.09	.000
Civic Skills – General Problem-Solving Skills	49.55	.000
Civic Skills – Civic Problem-Solving Skills	70.93	.000
Civic Knowledge	5.95	.016

Associations Between Student Perceptions of Service-Learning Quality and Outcomes

Students' experience in or their perceptions of the quality of service-learning projects were significantly associated with all outcome measures except civic knowledge, which approached statistical significance ($p = .105$). Exhibits 30 and 31 display the size of the relationship between the 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 students who participated in low-quality, service-learning projects.

Exhibit 30. Relationship Between Perceived Service-Learning Quality and Student Outcomes (Grades 3-5)

Dependent Variable	F	P
School Engagement	93.70	.000
I feel proud of my neighborhood or town.	65.61	.000
I do things to make my neighborhood or school a better place.	62.26	.000
Civic Dispositions	85.85	.000
Civic Skills	121.09	.000
Civic Knowledge	1.84	.176

Exhibit 31. Relationship Between Perceived Service-Learning Quality and Student Outcomes (Grades 6-12)

Dependent Variable	F	P
School Engagement	19.01	.000
Valuing School	16.09	.000
Civic Engagement	25.90	.000
Civic Efficacy	22.64	.000
Civic Dispositions	47.19	.000
Civic Skills – Team Skills	40.78	.000
Civic Skills – General Problem-Solving Skills	43.15	.000
Civic Skills – Civic Problem-Solving Skills	51.17	.000
Civic Knowledge	2.65	.105

Duration of Service-Learning as a Moderator of Student Outcomes

Analyses were conducted for students in Grades 6-12 only, because information about the duration of service-learning was not available for students in Grades 3-5. Duration of service ranged from *less than one month* to *throughout the school year*. The results revealed that duration of service-learning influenced student outcomes. There was a clear trend that students

involved with service-learning for a longer period of time tended to have higher ratings for all outcomes. Students involved for at least a month consistently rated outcomes higher than did their peers.

With regard to students' school and civic outcomes, statistically significant differences were found for civic engagement, civic dispositions, civic problem-solving skills, and civic knowledge. Subsequent post hoc tests revealed statistically significant differences for all of these outcomes between students involved in service-learning for *less than one month* and those who participated *throughout the school year*.

There were statistically significant differences for students' engagement in service-learning and perceived quality of service-learning experience. Statistically significant differences in ratings were found for these two measures between students who participated for less than a month and those who participated for all other periods of time, indicating that students who participated in service-learning for *more than a month* were more likely to be engaged in and rate the quality of service-learning highly. Exhibit 32 displays student outcomes for which statistically significant differences were found.

Exhibit 32. Duration of Project and Student Outcomes

Outcome	Duration of Service	N	Mean	SD ^b
Civic Engagement**	Less than 1 month	73	2.53	0.53
	Less than one semester but more than one month	56	2.58	0.39
	Throughout one semester	44	2.65	0.35
Civic Dispositions*	Throughout the school year	48	2.84	0.37
	Less than 1 month	73	2.97	0.63
	Less than one semester but more than one month	56	3.13	0.48
Civic Problem-Solving**	Throughout one semester	44	3.14	0.42
	Throughout the school year	48	3.28	0.46
	Less than 1 month	72	2.53	0.71
Civic Knowledge**	Less than one semester but more than one month	56	2.63	0.58
	Throughout one semester	43	2.70	0.54
	Throughout the school year	48	2.94	0.56
Service-Learning Engagement***	Less than 1 month	73	2.58	1.44
	Less than one semester but more than one month	56	2.84	1.26
	Throughout one semester	44	3.27	1.00
Service-Learning Experience***	Throughout the school year	48	3.21	1.20
	Less than 1 month	73	2.53	0.76
	Less than one semester but more than one month	56	2.89	0.49
Service-Learning Experience***	Throughout one semester	44	3.02	0.63
	Throughout the school year	48	3.29	0.53
	Less than 1 month	72	2.68	0.92
Service-Learning Experience***	Less than one semester but more than one month	56	3.08	0.68
	Throughout one semester	44	3.15	0.60
	Throughout the school year	48	3.33	0.56

Note: ^bStandard deviation. * $p < .05$; ** $p < .01$; *** $p < .001$.

In fall 2005 and spring 2006, service-learning coordinators, classroom teachers, and others implementing service-learning as part of the Learn and Serve Colorado program were asked to complete the online QSI. The QSI was completed by 24 respondents in the fall of 2005 and 16 respondents in the spring of 2006. Descriptive data are presented separately for each point in time.

Respondents and Program Characteristics

Exhibit 33 shows the number and types of respondents who completed the QSI in the fall and in the spring. Three fourths of respondents were classroom teachers. Most other respondents were service-learning coordinators.

Exhibit 33. Respondent Types

	Fall 2005 (N = 24)		Spring 2006 (N = 16)	
	N	Percent	N	Percent
Teacher	18	75.0	12	75.0
Service-Learning Coordinator	5	20.8	5	31.3
Principal/Assistant Principal	2	8.4	2	12.6

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 ($n = 16$) indicated that their school had received Learn and Serve funds for between 6 months and 3 years, with a median of 2 years. Spring respondents ($n = 11$) indicated that their school had received Learn and Serve funds for between 6 months and 5 years, with a median of 2 years. More than 60% of respondents, 63% in the fall and 75% in the spring, indicated that their school received Title I funds. Three fall respondents and five spring respondents indicated that between 3 and 40 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. Only a small proportion of the respondents provided information regarding funding. Exhibit 34 summarizes the sources reported by the respondents.

Other than K-12 Learn and Serve grants, between 30% and 43% of respondents reported that their schools received funding from AmeriCorps grants. A smaller number of respondents indicated that funding came from the state, the community, the school district, a foundation, or other sources. No respondents reported receiving SeniorCorps, CHESP, or Learn and Serve Homeland Security grant funds.

Exhibit 34. Service-Learning Funding Sources

	Fall 2005 (N = 12)		Spring 2006 (N = 14)	
	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>
AmeriCorps	7	29.2	7	43.8
Other funds	4	16.7	3	18.8
Foundation grants	3	12.5	3	18.8
State funds	2	8.3	1	6.3
Community funds	2	8.3	0	0.0
District funds	2	8.3	3	18.8
Other Learn and Serve grants	1	4.2	2	12.5

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

Fall and Spring Ratings of Service-Learning Quality and Sustainability

Exhibit 35 presents average respondent ratings of service-learning quality and sustainability indicators for fall 2005. All indicators but one were slightly greater than an average of 2, indicating that goals in these areas had been partially achieved. Ratings were highest in the areas of teaching and learning, followed by organizational capacity, collaborations and partnerships, and schoolwide support. Ratings of results/continuous improvement were lowest.

Exhibit 35. Quality and Sustainability Indicators, Fall 2005

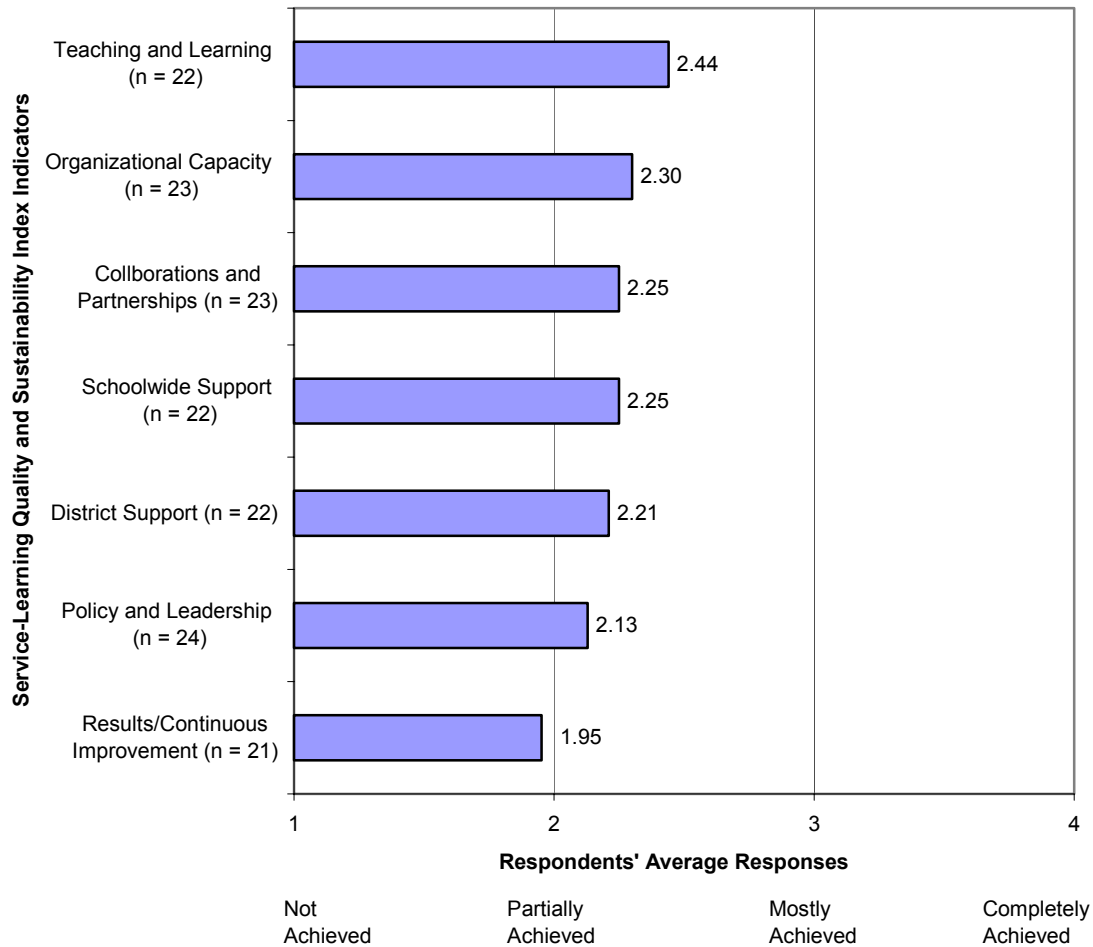
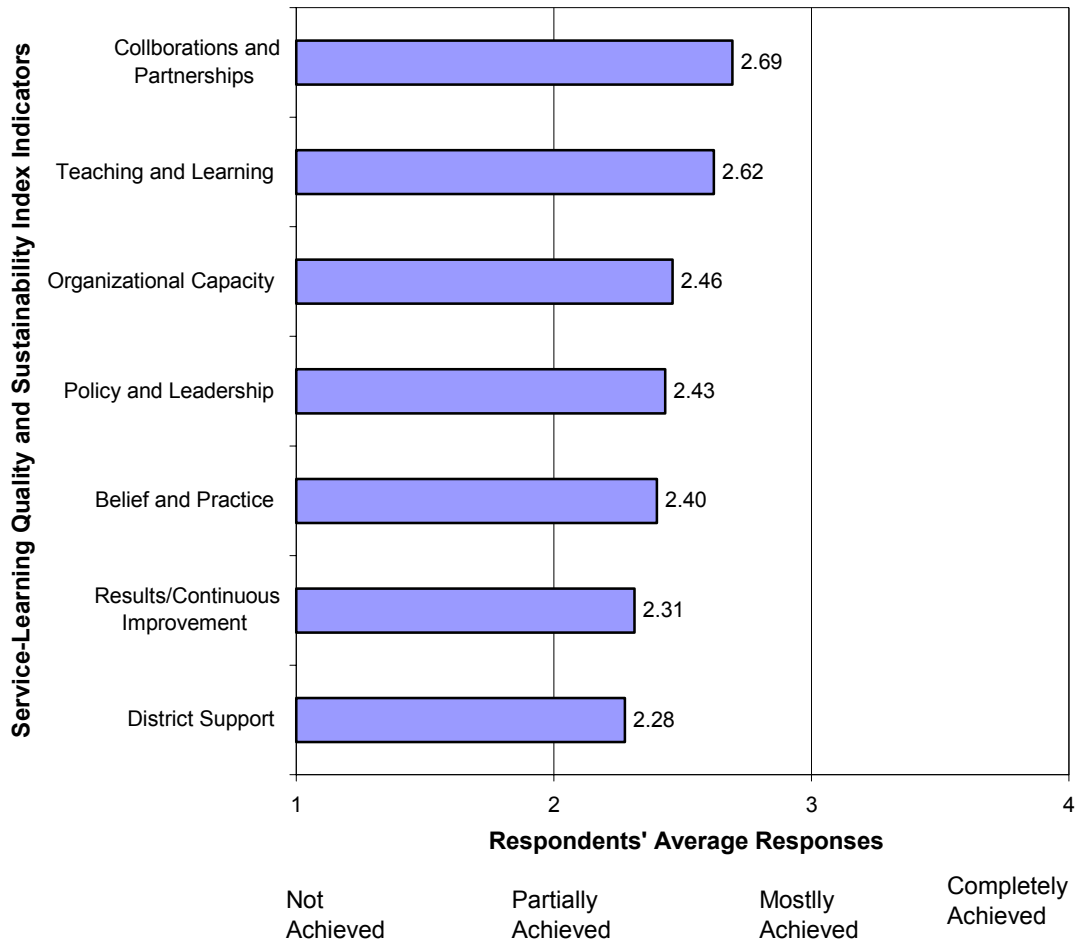


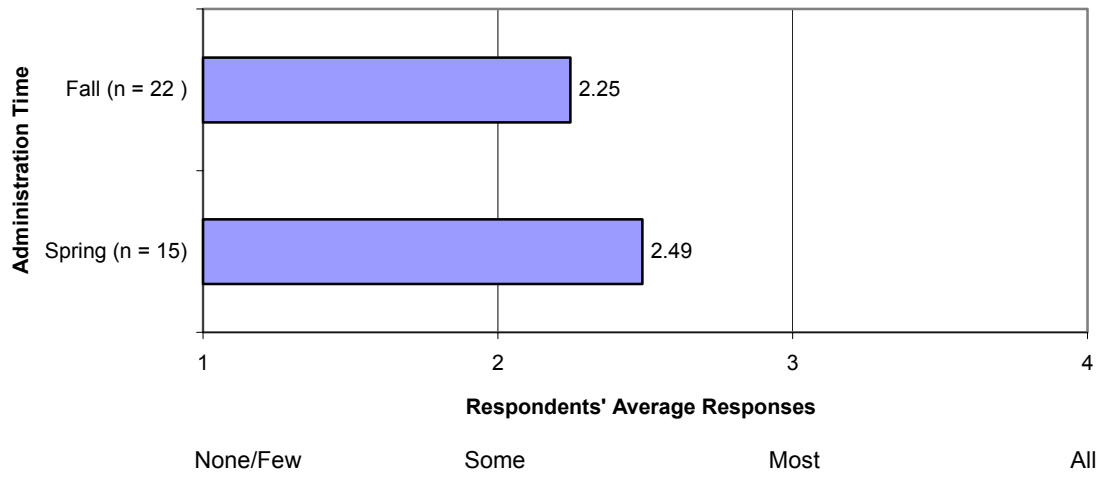
Exhibit 36 presents average respondent ratings on the same set of indicators for spring 2005. Because there were fewer spring respondents, these results cannot be validly compared to the fall data. Ratings for all indicators were between 2 and 3, indicating that goals in these areas were partially achieved, with some sites reporting their goals being mostly achieved in some areas. Highest ratings were reported for collaborations and partnerships and teaching and learning while district support and results/continuous improvement received the lowest ratings.

Exhibit 36. Quality and Sustainability Indicators, Spring 2006 (N = 16)



Because the measure of collegial support used a different scale (i.e., the proportion of teachers who support different aspects of service-learning), these results are presented in a separate Exhibit. Exhibit 37 shows that, on average, slightly more than *some* teachers reported collegial support at their school in fall 2005 and spring 2006, with slightly higher ratings reported from spring respondents.

Exhibit 37. Quality and Sustainability Indicator: Collegial Support, Fall 2005 and Spring 2006



Younger Students

Overall, both service-learning and comparison students showed declines from fall to spring for several measures. The results were more positive for female service-learning students than male students, and third graders tended to have the highest ratings for all measures. Students with high scores of service-learning engagement and quality of service-learning experience were more likely to rate school and civic outcomes highly. Specific findings included:

- **Statistically significant decreases in ratings from fall to spring were found for service-learning and comparison groups.** Statistically significant declines in ratings from fall to spring were found for the service-learning group for doing things to make the neighborhood or town a better place. A statistically significant decrease was reported for the comparison group on civic dispositions.
- **Statistically significant differences were found on student outcomes between service-learning and comparison students.** The comparison group had significantly higher post-survey ratings than the service-learning group for school engagement and doing things to make the neighborhood or town a better place. No statistically significant differences were found between the two groups for civic dispositions and civic knowledge.
- **Service-learning students outperformed comparison students on civic knowledge.** Although both the service-learning and comparison groups received significantly higher scores on knowledge items over time, the increase in scores was greater for the service-learning group than for the comparison group.
- **In the service-learning group, the ratings of the female students were higher than those of male students for all outcomes while the comparison group showed a mixed pattern.** Statistically significant differences were found by gender for the service-learning group for school engagement, civic dispositions, civic skills, service-learning engagement, and service-learning experience. No statistically significant differences by gender were found for the comparison group.
- **Differences in ratings across grade levels were statistically significant for service-learning students' school engagement, community attachment, civic dispositions, civic skills, civic knowledge, and service-learning engagement.** Third graders reported highest ratings for all measures, except for civic knowledge, and ratings gradually decreased as grade levels became higher. No statistically significant results were found for the comparison group except for civic knowledge where higher grade students scored higher than those in the lower grades.

- **Students who scored high on the service-learning engagement and service-learning experience measures tended to have more positive outcomes.** They 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 Students

Service-learning students had more positive results for several civic outcomes than comparison students. Overall, female students had higher ratings than male students in both groups, and students at the high school level generally had higher ratings than those at the middle school level. Again, student engagement in and perceived quality of service-learning served as predictors for school and civic outcomes. Length of students' service-learning involvement also influenced the outcomes. Specific findings are as follows:

- **Service-learning students had marginally higher ratings on civic engagement and civic dispositions than did the comparison group.** The results indicate that service-learning participants were more likely to be involved in civic life and have more positive civic dispositions than their peers in the comparison group. The service-learning group also showed statistically nonsignificant increases from fall to spring whereas the comparison group ratings decreased.
- **The service-learning group showed statistically significant increases from fall to spring in their ratings of civic dispositions while those of the comparison group slightly decreased.** The comparison group ratings significantly increased from fall to spring for civic problem-solving skills while those of the service-learning group slightly decreased.
- **The service-learning group showed a statistically significant increase from fall to spring in civic knowledge score as well as having higher post-survey scores than the comparison group.** The comparison group showed increases in their scores of civic knowledge over time, but the differences were not statistically significant.
- **Service-learning participants and comparison students differed little in school engagement, valuing school, civic efficacy and attitudes toward diversity.** No statistically significant group differences or changes in ratings from fall to spring were found for the two groups.
- **Service-learning students were more likely to identify work-related skills than academic skills as primary areas of impact of service-learning.** The two most frequently mentioned areas were job skills and work experience, followed by reading skills, writing skills, and career awareness. Students were least likely to identify acquisition of mathematics, science, or tutoring skills.
- **Ratings of female students in the service-learning group were statistically significantly higher than those of male students for all outcomes, except for team skills, general problem-solving skills, and civic knowledge.** Differences in ratings by gender for the comparison group were not statistically significant.

- **Several statistically significant differences were found between middle school and high school students.** Service-learning group students in Grades 9-12 scored significantly higher on civic engagement, civic efficacy, civic knowledge, and service-learning engagement than service-learning students. Service-learning students in Grades 6-8 reported significantly higher ratings of valuing school than students in Grades 9-12. The comparison group showed a similar pattern, with students in Grades 9-12 rating higher on all measures except for civic problem-solving skills. Statistically significant differences in ratings were reported for civic efficacy, team skills, and civic knowledge.
- **Student engagement in and perceived quality of service-learning served as predictors of students' school and civic outcomes.** 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. Students with higher ratings of service-learning engagement also scored high on civic knowledge.
- **Duration of service-learning influenced student outcomes.** Students involved with service-learning for a longer period of time tended to have higher ratings for all outcomes. Statistically significant differences were found for civic engagement, civic dispositions, civic problem-solving skills, and civic knowledge between students involved in service-learning for less than one month and those participating throughout the school year. Statistically significant differences in ratings were also found for service-learning outcomes between students who participated for less than a month and those who participated for longer durations, indicating students who participated in service-learning for more than a month were more likely to be engaged in and to rate the quality of service-learning highly.

Service-Learning Quality and Sustainability

Analyses of QSI indicators indicated that goals in various areas promoting service-learning quality and sustainability were partially achieved. In fall 2005, ratings were highest in the areas of teaching and learning, followed by organizational capacity, collaborations and partnerships, and schoolwide support. Ratings of results/continuous improvement were lowest. Ratings for QSI indicators in spring 2006 were somewhat higher, with highest ratings reported for collaborations and partnerships and teaching and learning. District support and results/continuous improvement received the lowest ratings. Slightly more than *some* teachers reported collegial support at their school in fall 2005 and spring 2006, with slightly higher ratings reported from spring respondents.