

Appendix

Appendix A1 Study characteristics: Laird, Bradley, & Black, 1998 (quasi-experimental design)

Characteristic	Description
Study citation	Laird, M., Bradley, L. R., & Black, S. (1998). <i>The final evaluation of Lions-Quest's Skills for Action</i> . Newark, OH: Lions Quest, Lions Clubs International Foundation.
Participants	Almost 1,800 ¹ students in grades 9–12 in 26 classrooms at 25 schools were included.
Setting	The study took place in 25 schools in seven states: Florida, Maryland, Michigan, Ohio, South Carolina, Tennessee, and West Virginia. Urban, suburban, and rural schools were included in each state. African-American students in the participating schools ranged from 1% to 71%; Hispanic student percentages ranged from 1% to 25%. The percentage of college-bound seniors in the schools ranged from 17% to 90%.
Intervention	Students were enrolled in quarter, semester, or year-long courses that involved planning volunteer service activities, taking action, and reflecting on that service. Service projects were direct service, indirect service, or civil action. Implementation quality was measured by whether the service component of the <i>Skills for Action</i> program was the core focus of the classes, integrated into the curriculum of the class, or peripherally connected to the class. ²
Comparison	Students in the comparison classes were matched with students in the intervention classes, sometimes in the same school, on grade level and grade point average. Comparison students did not participate in character education lessons or service learning.
Primary outcomes and measurement	The primary outcome measure came from the Student Service Learning Survey, which includes scales examining four areas related to service: involvement with diverse groups, helping others, taking social action, and intentions to volunteer in the community. ³ (See Appendix A2 for a more detailed description of the outcome measure.)
Teacher training	Teachers who implemented the intervention attended a two-and-a-half-day workshop that covered practical experience with volunteer service, techniques for integrating service learning into courses, and engaging students in reflection as part of the service learning process.

1. Of the 1,800 students who received the *Skills for Action* program, approximately 1,100 students participated in the administration of the Student Service Learning Survey.
2. The study notes that only a fraction of the teachers who received training actually implemented the program. Reasons for lack of participation included lack of time and resources, change of administration, lack of support from colleagues, and uncertainty how to use the program and its materials. The study was accepted for review based on equating of students in the participating classrooms. In addition, only about one third of the teachers who implemented the program attempted to reach full implementation.
3. Two additional outcomes, one in the behavior domain (Life Review Survey) and one in the knowledge, attitudes, and values domain (Checklist of Personal Gains) were examined in the study but are not reported here due to severe attrition of students who participated in the pretest administration of the surveys.

Appendix A2 Outcome measures in the knowledge, attitudes, and values domain

Outcome measure	Description
Student Service Learning Survey	This survey is a shortened version of the National Learning Through Service Survey developed by Blyth and Bekas at the Search Institute. It contains 36 of the 158 items in the original survey (as cited in Laird, Bradley, & Black, 1998). The survey asked about student attitudes toward four topics: involvement with diverse groups, helping others, taking social action, and intentions to volunteer in the community.

Appendix A3 Summary of study findings included in the rating for the knowledge, attitudes, and values domain¹

Outcome measure ⁴	Study sample	Sample size (students/classrooms)	Author's findings from the study ²			WWC calculations		
			Mean outcome (standard deviation ³)		Mean difference ⁵ (<i>Skills for Action</i> – comparison)	Effect size ⁶	Statistical significance ⁷ (at p = 0.05)	Improvement index ⁸
			<i>Skills for Action</i> group	Comparison group				
Laird, Bradley, & Black, 1998 (quasi-experimental design)								
Student Service Learning Survey	Grades 9–12	730/22	109.67 (15.92)	107.62 (16.17)	2.05	0.13	ns	+5
Domain average⁹ for knowledge, attitudes, and values						0.13	ns	+5

ns = not statistically significant

1. This appendix reports findings considered for the effectiveness rating and the improvement index. Subgroup findings from the same study are not included in the rating, but are reported in Appendix A4.
2. This appendix gives unadjusted posttest means, as reported by the study authors. Data reported by the study authors showed that there was no statistically significant difference between the baseline scores of the intervention and comparison groups.
3. The standard deviation across all students in each group shows how dispersed the participants' outcomes are: a smaller standard deviation on a given measure would indicate that participants had more similar outcomes.
4. Two additional outcomes, one in the behavior domain (Life Review Survey) and one in the knowledge, attitudes, and values domain (Checklist of Personal Gains) were examined in the study but are not reported here due to severe attrition (above 50% of the original sample) of students who participated in the pretest administration of the surveys. The study also reported findings for the five sub-scales of the Student Service Learning Survey. Statistically significant differences were reported for two sub-scales: (1) interpersonal competence and (2) self-efficacy and personal responsibility. The WWC was not able to confirm these findings because means and standard deviations were not reported.
5. Positive differences and effect sizes favor the intervention group; negative differences and effect sizes favor the comparison group.
6. For an explanation of the effect size calculation, please see the [Technical Details of WWC-Conducted Computations](#).
7. Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between the groups. The level of statistical significance was calculated by the WWC and, where necessary, corrects for clustering within classrooms or schools and for multiple comparisons. For an explanation about the clustering correction, see the [WWC Tutorial on Mismatch](#). See the [Technical Details of WWC-Conducted Computations](#) for the formulas the WWC used to calculate statistical significance. In the case of *Skills for Action*, corrections for clustering effects and multiple comparisons were not needed.
8. The improvement index represents the difference between the percentile rank of the average student in the intervention condition and that of the average student in the comparison condition. The improvement index can take on values between -50 and +50, with positive numbers denoting favorable results.
9. The WWC-computed domain effect sizes for each study and for each domain across studies are simple averages rounded to two decimal places. The improvement indices are calculated from the average effect sizes.

Appendix A4 Summary of subgroup findings for the knowledge, attitudes, and values domain¹

Outcome measure ⁴	Study sample	Sample size (students/classrooms)	Author's findings from the study ²					
			Mean outcome (standard deviation ³)		Mean difference ⁵ (Skills for Action – comparison)	WWC calculations		
			Skills for Action group	Comparison group		Effect size ⁶	Statistical significance ⁷ (at p = 0.05)	Improvement index ⁸
Laird, Bradley, & Black, 1998 (quasi-experimental design)								
Student Service Learning Survey	Grades 9–12 (female)	423/22	112.78 (14.92)	112.09 (15.19)	0.69	0.05	ns	+2
Student Service Learning Survey	Grades 9–12 (male)	307/22	103.72 (16.13)	104.17 (16.11)	–0.45	–0.03	ns	–1
Student Service Learning Survey	Grade 9	285/nr	109.77 (16.12)	107.81 (17.05)	1.96	0.12	ns	+5
Student Service Learning Survey	Grade 10	110/nr	107.06 (17.77)	106.42 (12.67)	0.64	0.04	ns	+2
Student Service Learning Survey	Grade 11	189/nr	108.19 (15.74)	109.04 (17.59)	–0.85	–0.05	ns	–2
Student Service Learning Survey	Grade 12	145/nr	111.73 (15.04)	101.45 (13.28)	10.28	0.68	ns	+25

ns = not statistically significant

nr = not reported

1. This appendix presents subgroup findings for one measure in the knowledge, attitudes, and values domain. Aggregated scores were used for rating purposes and are presented in Appendix A3.
2. This appendix reports unadjusted posttest means reported by the study authors. Pretest scores of the intervention and comparison groups were found to be statistically equivalent.
3. The standard deviation across all students in each group shows how dispersed the participants' outcomes are: a smaller standard deviation on a given measure would indicate that participants had more similar outcomes.
4. Two additional outcomes, one in the behavior domain (Life Review Survey) and one in the knowledge, attitudes, and values domain (Checklist of Personal Gains) were examined in the study but are not reported here due to severe attrition of students who participated in the pretest administration of the surveys. In addition, subgroup comparisons by grade point average of students in the intervention and comparison groups were not included in the review because the author demonstrated baseline differences on the service learning survey that were not taken into account at the time of analysis.
5. Positive differences and effect sizes favor the intervention group; negative differences and effect sizes favor the comparison group.
6. For an explanation of the effect size calculation, please see the [Technical Details of WWC-Conducted Computations](#).
7. Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between the groups. The level of statistical significance was calculated by the WWC and, where necessary, corrects for clustering within classrooms or schools. For an explanation about the clustering correction, see the [WWC Tutorial on Mismatch](#). See the [Technical Details of WWC-Conducted Computations](#) for the formulas the WWC used to calculate statistical significance. The study authors reported a statistically significant difference favoring the intervention group for grade 12 students, but this difference was not statistically significant as calculated by the WWC, with correction for clustering within classrooms.
8. The improvement index represents the difference between the percentile rank of the average student in the intervention condition and that of the average student in the comparison condition. The improvement index can take on values between –50 and +50, with positive numbers denoting favorable results.

Appendix A5 Skills for Action rating for the knowledge, attitudes, and values domain

The WWC rates the effects of an intervention in a given outcome domain as: positive, potentially positive, mixed, no discernible effects, potentially negative, or negative.¹

For the outcome domain of knowledge, attitudes, and values, the WWC rated *Skills for Action* as having no discernible effects. It did not meet the criteria for other ratings (positive effects, potentially positive effects, mixed effects, potentially negative effects, and negative effects) because the one study that met WWC evidence standards with reservations did not show statistically significant or substantively important effects.

Rating received

No discernible effects: No affirmative evidence of effects.

- Criterion 1: None of the studies shows a statistically significant or substantively important effect, either positive or negative.

Met. The WWC analysis found no statistically significant or substantively important effects in this domain.

Other ratings considered

Positive effects: Strong evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: Two or more studies showing statistically significant *positive* effects, at least one of which met WWC evidence standards for a strong design.

Not met. *Skills for Action* had only one study meeting WWC evidence standards that reported findings on knowledge, attitudes, and values. Further, this study used a quasi-experimental design and so did not meet WWC evidence standards for a strong design.

- Criterion 2: No studies showing statistically significant or substantively important *negative* effects.

Met. The WWC analysis found no statistically significant or substantively important *negative* effects in this domain.

Potentially positive effects: Evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: At least one study showing a statistically significant or substantively important *positive* effect.

Not met. The WWC analysis found no statistically significant or substantively important positive effects in this domain.

- Criterion 2: No studies showing a statistically significant or substantively important *negative* effect. Fewer or the same number of studies showing *indeterminate* effects than showing statistically significant or substantively important *positive* effects.

Met. The WWC analysis found no statistically significant or substantively important *negative* effects in this domain.

Mixed effects: Evidence of inconsistent effects as demonstrated through EITHER of the following:

- Criterion 1: At least one study showing a statistically significant or substantively important *positive* effect, and at least one study showing a statistically significant or substantively important *negative* effect, but no more such studies than the number showing a statistically significant or substantively important *positive* effect

Not met. The WWC analysis found no statistically significant or substantively important effects in this domain.

OR

- Criterion 2: At least one study showing a statistically significant or substantively important effect, and more studies showing an *indeterminate* effect than showing a statistically significant or substantively important effect.

Not met. The WWC analysis found no statistically significant or substantively important effects in this domain.

(continued)

Appendix A5 Skills for Action rating for the knowledge, attitudes, and values domain (continued)

Potentially negative effects: Evidence of a negative effect with no overriding contrary evidence

- Criterion 1: At least one study showing a statistically significant or substantively important *negative* effect.

Not met. The WWC analysis found no statistically significant or substantively important negative effects in this domain.

- Criterion 2: No studies showing a statistically significant or substantively important *positive* effect OR more studies showing statistically significant or substantively important negative effects than showing statistically significant or substantively important positive effects.

Met. The WWC analysis found no statistically significant or substantively important positive effects in this domain.

Negative effects: Strong evidence of a negative effect with no overriding contrary evidence.

- Criterion 1: Two or more studies showing statistically significant *negative* effects, at least one of which is based on a strong design.

Not met. *Skills for Action* had only one evaluation study meeting WWC evidence standards that reported findings on knowledge, attitudes, and values. This study did not have a statistically significant negative effect. Further, this study used a quasi-experimental design and so did not meet WWC evidence standards for a strong design.

- Criterion 2: No studies showing statistically significant or substantively important *positive* effects.

Met. The WWC analysis found no statistically significant or substantively important positive effects in this domain.

1. For rating purposes, the WWC considers the statistical significance of individual outcomes and the domain-level effect. The WWC also considers the size of the domain-level effect for ratings of potentially positive effects. See the [WWC Intervention Rating Scheme](#) for a complete description.