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**Three-Year Longitudinal Service-Learning Research Study:**

**Preliminary Findings**

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Learn and Serve Ohio

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*Using an experimental design, this study examines the contributions of service-learning to decreased at-risk behaviors, student cognitive, social, and personal development, and academic achievement over a three-year period. During the pilot phase and Years One and Two, teachers and students from eleven different Ohio schools have been surveyed. Preliminary findings are presented.*

---

## I. INTRODUCTION

“Research from service-learning program evaluations show many promising, positive outcomes. (But) researchers caution that the majority of research on service-learning to date has come from service-learning project evaluations. Further research is still needed to provide deeper understandings and texture to our knowledge of how service-learning produces its outcomes. With more and better research in the next decade, the passion with which practitioners pursue service-learning and believe in its outcomes can be supported in more conventional and data based ways.”<sup>1</sup>

Although this research study is only in its second year—and that second year has incomplete data—it is evident that the above statement regarding the paucity of reliable data supporting the value of service-learning in America’s elementary and secondary schools is not only accurate, but an increasingly serious problem. As we continue to support and encourage an increase in service-learning based curricula in our schools, the need for a research foundation escalates dramatically.

While this study in no way fills the vacuum that is being discussed, it is an initial attempt to gather the appropriate longitudinal supporting data necessary to provide to educational decision makers. Until we realize and accept the true impact of service-learning as a valuable curricular approach, we will continue to speak in lofty platitudes by passing the simple and important research findings necessary to convince a data-driven educational world.

It is evident even in this initial research phase that service-learning is of great value, viz..., service-learning has great value for both children in schools and those extended school communities. This study is longitudinal natured, covering a pilot phase and three additional years. At this time, we have

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<sup>1</sup> Strom, T. Q. and Miller, C. (2001). “Creating a positive climate: Service-learning.” Safe and Responsive Schools, Indian University [Article on-line] [www.indiana.edu/~safeschl](http://www.indiana.edu/~safeschl) (accessed 11 October 2002).

completed the pilot phase and one year with the second year in progress. The focus has been on high school students with eight high schools and a more limited number of middle and elementary schools. A control group design has been utilized and we have tried to remain true to the appropriate methodology. Variables investigated in this study include at-risk behaviors, such as unexcused absences and disciplinary referrals; involvement in extracurricular activities; classroom discipline; student growth in social, personal, value, career, and academic development; service-learning attitudes, knowledge, and experiences; total hours and frequency of service; and cumulative grade point averages.

## II. METHODOLOGY

### *A. Design*

#### (1) Pilot Phase: January to June 2001

During the Pilot Phase of this study, data were collected from January 2001 to June 2001. Data was only collected during the second semester due to difficulties in securing the necessary funding and obtaining commitments from project sites. Hence, the decision was made to use this year to pilot the data collection process and tools. One of the challenges of the recruitment process included obtaining control groups for each of the service-learning participants. Because of recent changes in the way data is collected and reported on the Ohio Department of Education's "Educational Management Information System (EMIS)," information on control groups can now be obtained directly from EMIS, simplifying this process in the future.

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Table 1

#### Pilot Study Participants

---

Schools	Experimental	Control
Belpre High School <i>Belpre School District</i>	X	N/A
Clark Center Alternative School <i>Washington County Educational Service Center</i>	X	X*
Elida High School	X	X

<i>Elida Local School District</i>		
Fort Hayes Metropolitan Education Center	X	N/A
<i>Columbus Public School District</i>		
Hobart Middle School	X	X
<i>Painesville City School District</i>		
Lima Senior High School	X	X
<i>Lima City Schools</i>		
Pickerington High School	X	X
<i>Pickerington Local School District</i>		
Ripley High School	X	N/A
<i>Ripley Union Lewis Huntington School District</i>		

\* The control partner for Clark Center Alternative School was Marietta High School as Clark Center is a school separate from the traditional public schools.

The Pilot Phase initially included eleven service-learning sites and five control group sites. However, two of the service-learning sites did not return all of the required surveys and were excluded from the project. Schools submitting the required information included eight different high schools and one middle school. One of the high schools was an alternative school (see Table 1 above). As shown in Figure 1 below, of these, three were establishing new service-learning projects; four, including the middle school, were continuing their service-learning projects; and one, the alternative school, was expanding the current service-learning program. Service-learning was integrated most often into English/Language Arts and Social Studies (see Figure 2 below) and least often into Family and Consumer Science, and Science.

Figure 1

Service-Learning Project History

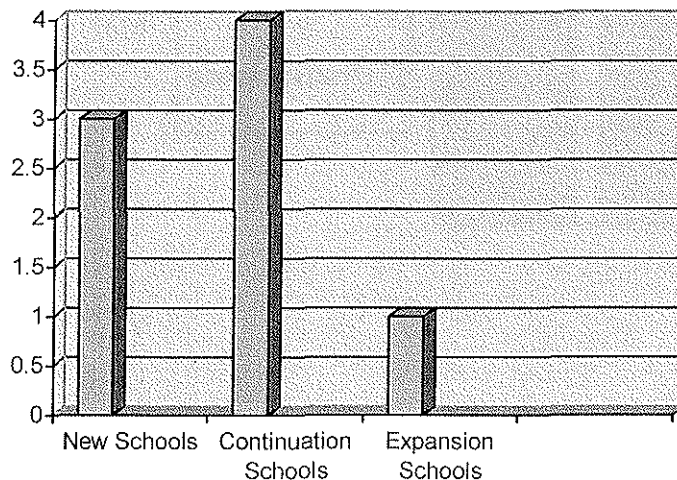




Figure 2

Project Curricular Areas

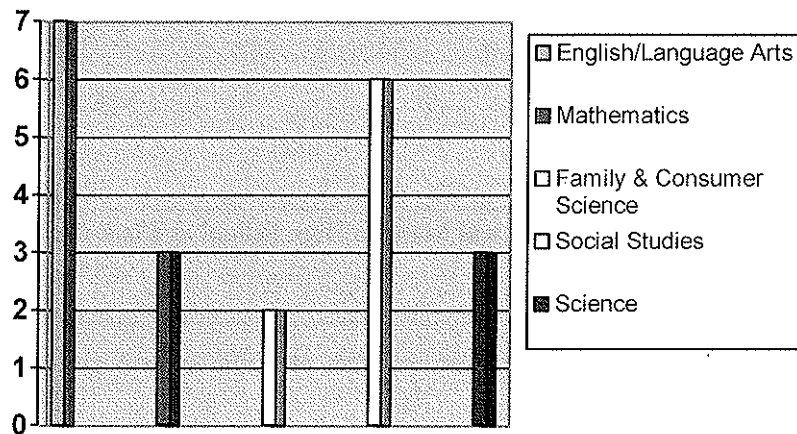
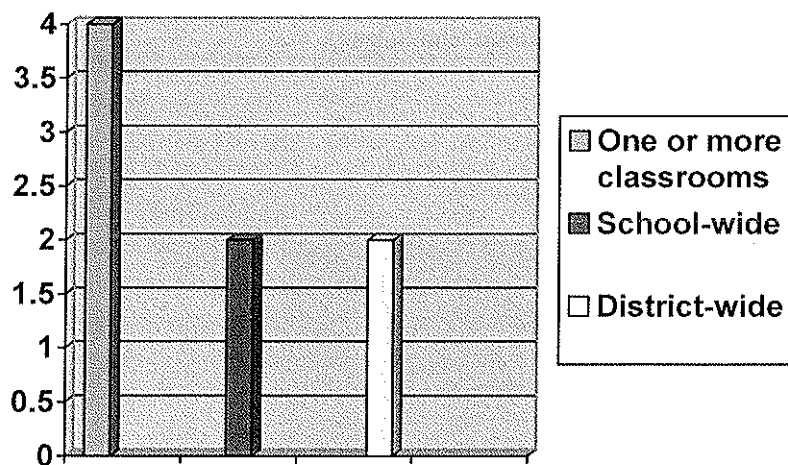


Figure 3

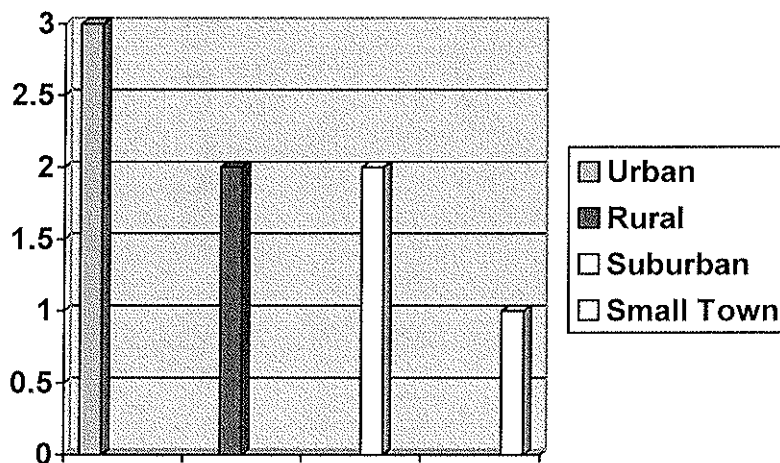
Scope of Service-Learning Project



Four of the projects, including the alternative school, included one or more classrooms. Two projects, including the middle school, were school-wide. The remaining projects were district-wide (see Figure 3 above). Three of the high schools were in urban setting; one high school and the alternative school were in a rural setting. One high school and one middle school were in suburban settings. The remaining high school was located in a small town (see Figure 4 below).

Figure 4

Type of School Districts



(2) Three-Year Longitudinal Study: Year One: September 2001- June 2002

At the beginning of Year One, nine different schools were expected to participate, including five high schools, an alternative high school, and three middle schools. Unfortunately, three of the high school participants from the Pilot Phase had dropped out of the study due to teacher relocation. In addition, two new high school and two new middle schools were added to the study in Year One. These four schools were added after the beginning of the year, so data from the “Pre-Baseline Data Form”, “Pre-Project Teacher Report Form”, and “Interim Baseline Data Form” were not initially available from them. Two of the four new participants did not provide required forms and were

dropped to ensure experimental rigor. Therefore, the total participants responding on forms ranged anywhere from four to seven schools.

Table 2

Year One Participants

School	Experimental	Control
Big Walnut High School <i>Big Walnut School District</i>	X	N/A
Clark Center Alternative School <i>Washington County Educational Service Center</i>	X	X*
Elida High School <i>Elida Local School District</i>	X	X
Hobart Middle School <i>Painesville City School District</i>	X	X
Perry Middle School <i>Worthington School District</i>	X	N/A
Ripley High School <i>Ripley Union Lewis Huntington School District</i>	X	X

\* The control partner for Clark Center Alternative School was Marietta High School as Clark Center is a school separate from the traditional public schools.

In this year of the study, participants in two of the schools were continuing service-learning projects, while two others were expanding their service-learning projects (see Figure 5, below). During Year One, one school was from a rural setting, two suburban, and one from a small town (see Figure 6, below). Once again, service-learning projects were most frequently integrated into English/Language Arts and Social Studies, while integrated the least into Family and Consumer Science, Mathematics, and Science (see Figure 7, below). Finally, one project included one or more classrooms, two were school wide and one was district-wide.

Figure 5

Service-Learning Project History

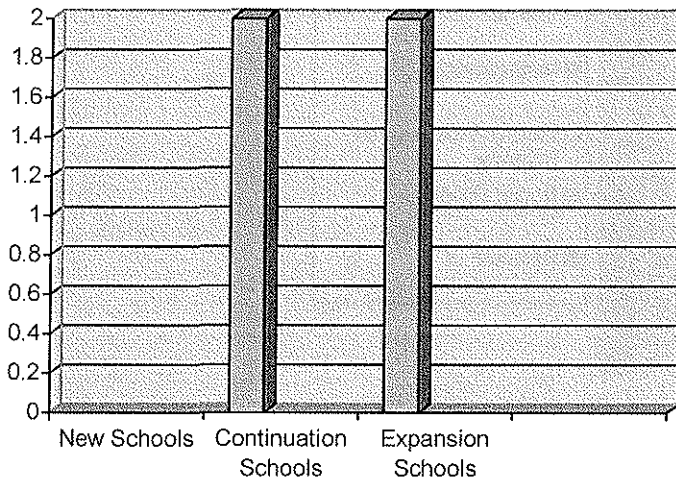


Figure 6

Types of School Districts

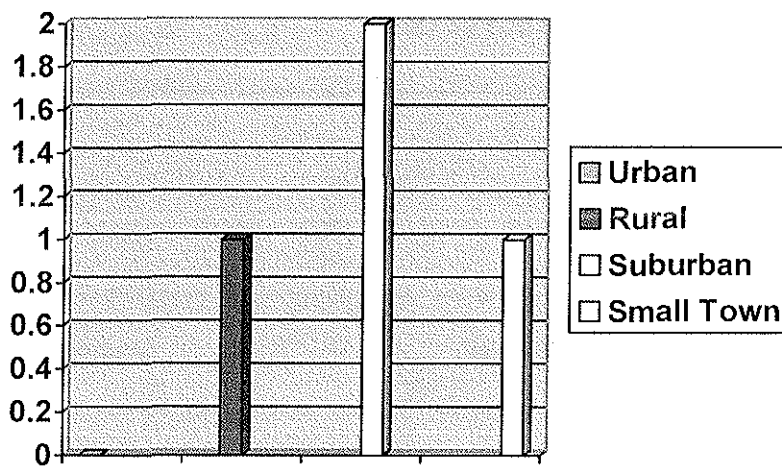
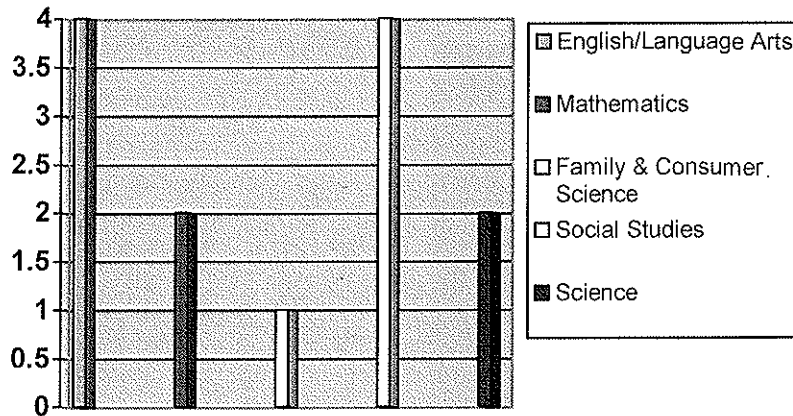


Figure 7

Project Curricular Areas



(3) Three-Year Longitudinal Study: Year Two: September 2002- June 2003

During Year Two of our research study, we had a consistent set of participants who have been with us since the Pilot Phase or Year One. Refer to Table 3, below, for detailed information on service-learning and control sites. As we anticipated, the demographics of the school and the service-learning programs remained similar to those of Year One.

Table 3

Year Two Participants

School	Experimental	Control
Clark Center Alternative School <i>Washington County Educational Service Center</i>	X	X*
Elida High School	X	X

<i>Elida Local School District</i>		
Hobart Middle School	X	X
<i>Painesville City School District</i>		
Perry Middle School	X	N/A
<i>Worthington School District</i>		
Ripley High School	X	X
<i>Ripley Union Lewis Huntington School District</i>		
Sutter Park Elementary	X	N/A
<i>Worthington School District</i>		

- The control partner for Clark Center Alternative School is Marietta High School as Clark Center is a school separate from the traditional public schools.

Figure 8

Service-Learning Project History

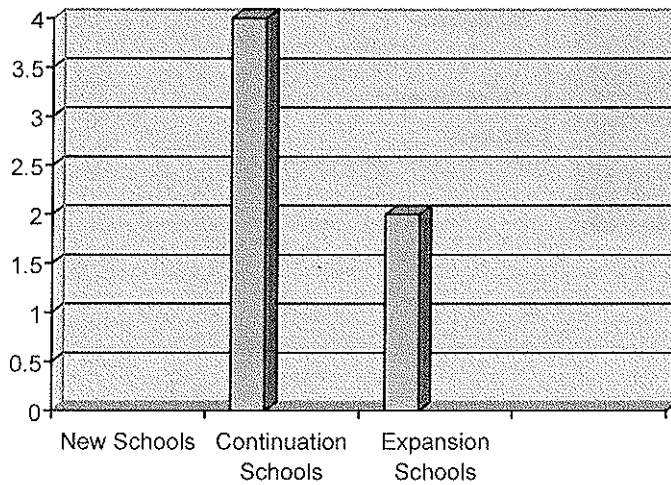


Figure 9

Types of School Districts

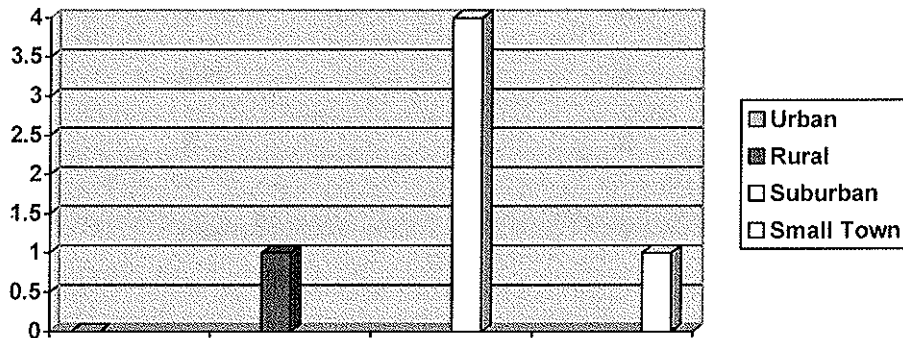
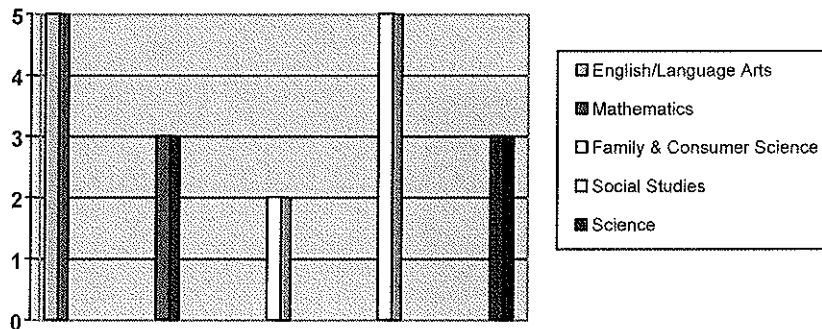


Figure 10

Project Curricular Areas



(4) Three-Year Longitudinal Research Study: Year Three: September 2003-June 2004

As we begin the third year of our research study, we have a consistent set of participants who have been with us since the Pilot Phase or Year One. Refer to Table 4, below, for detailed information on service-learning and control sites. At this time, the first set of data from the “Pre-Baseline Form” and “Pre-Project Teacher Report Form” is not in, as the participants are collecting the information throughout the month of October. However, we expect the demographics of the school and the service-learning programs to remain similar to those of Year One and Year Two.

Table 4

Year Three Participants

School	Experimental	Control
Clark Center Alternative School <i>Washington County Educational Service Center</i>	X	X*
Elida High School <i>Elida Local School District</i>	X	X
Hobart Middle School <i>Painesville City School District</i>	X	X
Perry Middle School <i>Worthington School District</i>	X	N/A
Marietta Middle School <i>Marietta School District</i>	X	X
Ripley High School <i>Ripley Union Lewis Huntington School District</i>	X	X
Sutter Park Elementary <i>Worthington School District</i>	X	X

\* The control partner for Clark Center Alternative School was Marietta High School as Clark Center is a school separate from the traditional public schools.

*B. Instrumentation*

Participants throughout the year completed various surveys. These eight different surveys were used to obtain comprehensive qualitative and quantitative information from teachers and students in both the service-learning and control groups. These surveys were modified by Richard Bradley from forms and information available from the Corporation for National and Community Service and other researchers and include: (1) Pre-Baseline Data Form; (2) Pre-Project Teacher Report Form; (3) Student Service-Learning Survey; (4) Checklist of Personal Gains; (5) Student Identification Code; (6) Critical Components That Support Learning and Service (Corporation for National and Community Service, 1999); (7) Post-Baseline Data Form; and (8) Post-Project Teacher Report Form. Those instruments are



discussed below in the same order in which they are administered to experimental and control group participants.

(1) Pre-Baseline Form

The “Pre-Baseline Form” is completed by teachers of both the service-learning and control groups at the beginning of the year or semester. This form asks that data on the number of unexcused absences, disciplinary referrals, and participation in extracurricular activities be collected during a specified four-week period (typically 20 school days). This data is then divided into school-wide and classroom numbers for both males and females. A separate question also asks teachers to report the amount of time these students were in their classroom and how much time they spent establishing and maintaining order and discipline. Finally, this survey asked for applicable 4<sup>th</sup>, 6<sup>th</sup>, 9<sup>th</sup>, and 12<sup>th</sup> grade Ohio Proficiency Test (OPT) results for the school and district, for each of the five required tests (reading, writing, citizenship, mathematics, and science), for the previous and current school year. The OPTs are used to determine the individual student success as well as proficiency of schools and school districts being compared. For the purpose of this research, in Year One of the study, an interim baseline was added asking the same questions as the Pre- and Post-Baseline, with the exception of the Proficiency data.

(2) Pre-Project Report Form

Also in the beginning of the school year (or semester), the “Pre-Project Teacher Report Form” is distributed to teachers of the service-learning classes to complete. This form is intended to gather descriptive information about the project teacher’s plan to implement as well as the demographics of program participants. These included the project history, curriculum connections, project scope, grade levels, ethnic background of participants, and type of school district. On this form, open-ended questions are used to gather further qualitative data about involvement in the planning process, resources and materials needed, and any special training required. An example of one of these questions is, “What strategies and/or materials will be used to give students an opportunity to reflect on the meaning of their service activities?”

### (3) Student Service-Learning Survey

In the spring, two surveys are given to service-learning students, including the “Student Service-Learning Survey” and the “Checklist of Personal Gains”. Neither of these surveys is given to elementary students who may be involved in the study. To ensure anonymity, both of these surveys ask the student to create a “student code” from the first letter of their first name and first four letters of their last name. The “Student Service-Learning Survey” presents students with 25 questions regarding service-learning background, experiences, and knowledge, opinions on social responsibility, service, and being a “team player”. An example of a question on this survey would be, “I am aware of the problems in my community and which organizations are working to address them.” Students answer these questions using a Likert Scale (5= Strongly Agree; 4=Agree; 3=Neither Agree Nor Disagree; 2=Disagree; 1=Strongly Disagree). Five other questions ask students about the quantity of time spent in various activities. This includes a separate Likert Scale where 0=No time at all to 5=11 or more hours. Finally, this survey also asks students their age, grade, gender, and cumulative grade point average.

### (4) Checklist of Personal Gains

The “Checklist of Personal Gains” includes 25 questions, also using a 5-point Likert Scale (5=Strongly Agree; 4=Agree; 3=Neither Agree Nor Disagree; 2=Disagree; 1= Strongly Disagree). These questions, from the students’ perspective, try to determine student growth over the course of a year in five areas, including personal development, social and interpersonal development, values development, academic development, and career development. An example of a question within the area of values development is, “ I have become more concerned about the well-being of others.” Space is provided for students to write examples of experiences that helped in each area. Similar to the “Student Service-Learning Survey”, the “Checklist of Personal Gains” asks a student to create a student code, the age, grade and gender. Finally, this survey asks students for the frequency of the service activity and the total hours of service.

### (5) Student Code Identification

The students in the control group are also asked to complete a brief survey in order to compare some information with the service-learning groups. The survey used is the "Student Identification Code". This asks for a student code, created in the same manner service-learning students created them, age, grade, and gender. This survey also asks control students if they are involved in any class related service activities. If so, frequency and total hours of service are solicited. In Year One of the study, 2001-2002, a question asking for control students' cumulative grade point averages was also included. We hope that this may give a more precise comparison between service-learning and control students regarding academic achievement. This was included even though several of the researchers believe the most important value of service-learning will be found in the non-academic arena.

#### (6) Post-Baseline Data Form

Similar to the "Pre-Baseline Form", the "Post-Baseline Form" is to be completed by teachers of both the service-learning and control groups. The "Post-Baseline Form" is distributed in the spring, at the end of the year, or semester. This form asks for data from within a four-week period on the number of unexcused absences, disciplinary action referrals, and participation in extracurricular activities. This data is further divided into school-wide and classroom numbers for both males and females. A separate question also asks teachers to report the amount of time they have these students in their classroom and how much time they spend establishing and maintaining order and discipline. The "Post-Baseline Data Form" also asked for applicable 4<sup>th</sup>, 6<sup>th</sup>, 9<sup>th</sup>, and 12<sup>th</sup> grade Ohio Proficiency Test results for the school and district, for each of the five tests (reading, writing, citizenship, mathematics, and science), for the previous and current school year.

#### (7) Post-Project Teacher Report Form

The "Post-Project Teacher Report Form" is distributed in the spring at the same time as the "Post-Baseline Data Form", mentioned above. This form includes the same questions as the "Pre-Project Teacher Report Form", but the question is placed in the past tense rather than future tense (i.e., "in what ways were students involved..." versus "in what ways will students be involved..."). However,

more questions are included with this form to reveal the number of participants and beneficiaries, average reflection hours, benefits observed for the students, categories of service, and things learned or to be changed.

(8) Critical Components That Support Learning and Service

The last form distributed, “Critical Components that Support Learning and Service”, has been developed by the Corporation for National and Community Service and used by Learn and Serve Ohio (in a modified form) for several years in its yearly evaluation of its grantees. In this research study, it is used with the service-learning participants. Besides demographics similar to that on the “Project Teacher Report Forms”, this survey requires participants to contemplate their level of service provided by their program in eleven areas. These eleven areas have been deemed the necessary elements included in an effective service-learning program. Many of the elements are further subdivided into more specific practices. Participants rate themselves from Level 1 (more like community service) to Level 4 (representing an exemplary level of practice). Room is also provided for comments, explanations, or examples from the participants. An example is provided below of a question and response:

<b>Critical Component 1.5</b>			
<i>Students connect to state or local standards.</i>			
Level 1	Level 2	Level 3	X Level 4
"Select students serve on the Ohio Youth Action Council. These students begin elementary youth leadership movements. They keep up on state levels of service at these meetings."			

Site visits, when used in conjunction with the “Critical Components”, has been a method to allow us to validate findings and to gain a better understanding of each program’s strengths and weaknesses and participants’ opinions about their program.

### *C. Procedures*

All eight surveys were distributed by mail throughout the year. At times, some were also sent as email attachments. Each time a mailing of a survey or surveys was sent, instructions for completion and return were included. The forms were then returned by U.S. mail. Reminders were sent by phone, email, or mail when necessary to those whose responses were not received by the due date. A folder was created for each form to be placed when received. During the Pilot Phase, a data cover sheet was attached to each set with contact information. However, during the Year One of the study, school and teacher codes previously created were written on each form returned, even when sets included numerous forms from students. Absent exigent circumstances, this ensured no form could be misplaced in another set.

An Excel database workbook was created, which included a worksheet for each survey. Numerical codes were created for school, teacher, and students to establish anonymity and to allow cross analysis and tracking. Each year, student-created codes are compared to those the following year and new ones are assigned new codes, while any who may be in a class or program more than one year consecutively are given their codes from the previous year. In tracking students from the Pilot Phase, all participating teachers were sent their students' created codes, along with gender, age, and grade so they may match them up to the previous year's roster. They were then asked to locate these students, if possible, and have them complete the "Checklist of Personal Gains" for a second time. Participants were asked to provide at least 80% return rate in order to receive their additional stipend. These were then gathered and returned by mail. Once all data was received, the Excel database was cleaned up, assigning variable names where appropriate, and finding any invalid characters. At this point, the Excel workbook was resaved as worksheets to be entered into SPSS statistical software.

## III. PRELIMINARY FINDINGS

### *A. Pilot Phase*

Due to the small number of participants (n=10) for the Pre- and Post-Baseline Data Form, it was not possible to establish any correlation between service-learning and control groups and the data on

unexcused absences and disciplinary referrals. Because of the limited number of data sets, any outliers also significantly affected the results. One such outlier was the alternative high school. Although this respondent did not have unexcused absences data available, the data provided on disciplinary referrals is, of course, much higher than from regular high schools, as every student is there due to excessive disciplinary referrals. Also, the service-learning program in this school includes all students. Therefore, there is a 100% ratio between the number of disciplinary referrals school wide and service-learning class wide. Comparing the pre- and post-data for this school reveals that the number of discipline referrals remained the same for this particular service-learning program.

Also making the data challenging to compare between service-learning and control is the fact that many of both groups only had between 0 and 4 unexcused absences or discipline referrals. Therefore, it is not to say that one program is better than another, but several service-learning and control classes upheld classroom and school behavior as one would expect of all classes. Further, because these classes, as well as their schools had few unexcused absences or discipline referrals to report, when there was an increase of only one, either between service-learning and control or between pre- and post-data, the ratio of school to class increased significantly. Perhaps some schools have created such a “culture” of service-learning, that even students who are not actively participating in it, are still exposed to service-learning and its values through friends, recognition events, and community awareness. As five of the participant schools are Learn and Serve grantees, all of which have been established for some time, we can be sure that the service-learning classes are, in fact service-learning. However, we cannot be sure that its effects are not felt throughout the school.

Table 5

Unexcused Absences and Disciplinary Referrals

<u>Unexcused Absences</u>			<u>Disciplinary Referrals</u>		
	S/L	Control		S/L	Control
	Classes	Classes		Classes	Classes
Male			Male		
Decrease	43%	33%	Decrease	43%	67%
Same	43%	33%	Same	29%	0%
Increase	14%	33%	Increase	29%	33%
Female			Female		
Decrease	29%	67%	Decrease	33%	33%
Same	43%	33%	Same	50%	0%
Increase	29%	0%	Increase	17%	69%

Of the seven service-learning groups, three had reduced male absences, three remained the same, and one increased. Two of these groups had reduced female absences, three remaining the same, and two increased. For male disciplinary referrals, three service-learning groups decreased, two remained the same, and two increased. Finally, for female disciplinary referrals, two decreased, three remained the same, one increased and one was not used due to insufficient data (see Table 5 above).

Also shown in Table 5, of the three control groups, one had reduced male absences, one remained the same, and one increased. For female absences, two were reduced and one remained the same. Of these groups, male disciplinary referrals, two decreased and one increased. Finally, with female disciplinary referrals, one decreased and two increased. With this data, it can be stated that the **service-learning groups had a higher percentage of reduction of male absences and a lower percentage of increased male absences, and male and female disciplinary referrals.**

Because some data was analyzed across forms, the “Checklist of Personal Gains” and the “Student Service-Learning Survey” were combined into one separate Excel spreadsheet. One reason for this is that the “Checklist of Personal Gains” did not request GPAs, but the “Student Service-Learning Surveys” did not ask for total hours of service. Using these two surveys, the students’ GPAs were compared to total hours of service. Of the 231 cases, 70 (30.3%) were included. Of these 70 cases, there was no significant correlation (.169) between the GPA means and the hours of service learning (see Table 6 below). The mean GPA increase slightly as service of less than five hours, six to fifteen hours, and then sixteen to twenty-five hours is performed. However, after twenty-five hours the mean GPAs decrease again. The GPAs were also compared to the frequency of service (see Table7 below). Of the 231 cases, 72 (31.2%) were included. Again, of these 72 cases, there was no significant correlation (.099) between the GPA means and the frequency of service-learning.

Table 6

Total Hours of Service vs. GPA means

Hours of service	GPA mean
< five hours	2.31
Six to 15 hours	2.46
16-25 hours	2.98
26-35 hours	2.00
36+ hours	2.63

Table 7

Frequency of Service vs. GPA means

Frequency of service	GPA mean
One to two times a semester	2.50
Once a month	2.35
Two times a month	3.25
Almost every week	2.98
Every week	2.40
Other	2.69

Using information from the “Pre-Baseline Data Form”, the percentage of time spent maintaining discipline in the classroom was compared to the type of classroom, service-learning or control. Although not statistically significant, **service-learning teachers spent a slightly lower percentage of the class time (6.16%) maintaining discipline compared to control teachers (7.38%),** as shown in



Figure 11 below. Also from the “Pre-Baseline Data Form”, displayed in Figure 12, below, it was evident that **students in service-learning classes were more involved in extracurricular activities (8.50 for males; 12.00 for females) than in control classes (1.20 for males; 2.00 for females).** Figure 13, below, shows that **service-learning students also made up a greater percentage of the total student population involved in extracurricular activities (6.06% for males; 10.48% for females) than the control students (1.05% for males; 1.79% for females).**

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Figure 11

Time Spent Maintaining Classroom Discipline

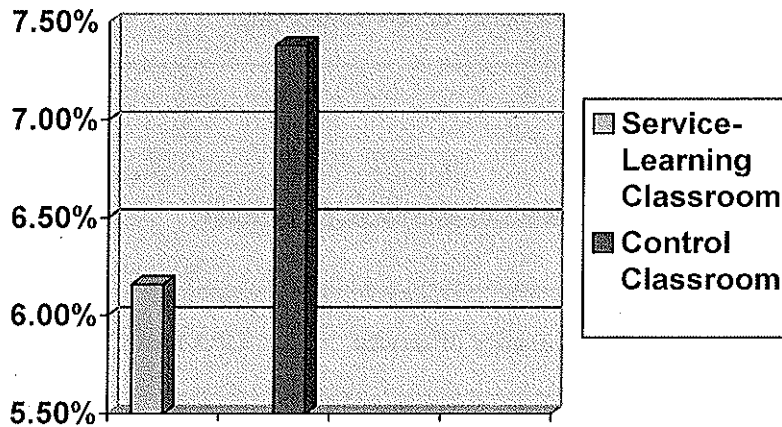


Figure 12

Class Means Extracurricular Activities

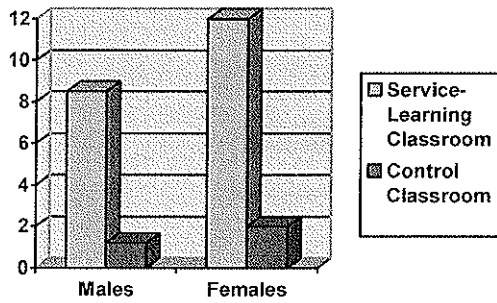
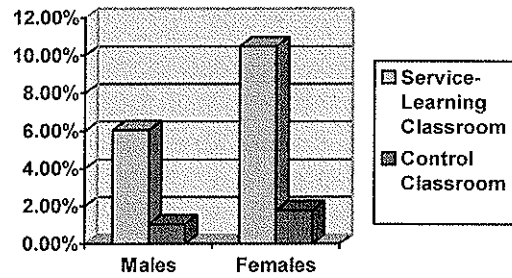


Figure 13

Percent Involved in Extracurricular Activities



Using data from the “Checklist of Personal Gains” and the “Student Identification Code” sheet, **those not involved in service-learning programs were much less likely to be involved in any kind of service activity.** Forty-two percent of service-learning students performed 36 or more hours of service and 37.4% performed service every week. Only 1.7% of all control students performed this much service with this frequency (see Figures 14 and 15 below).

Figure 14

Total Hours of Service

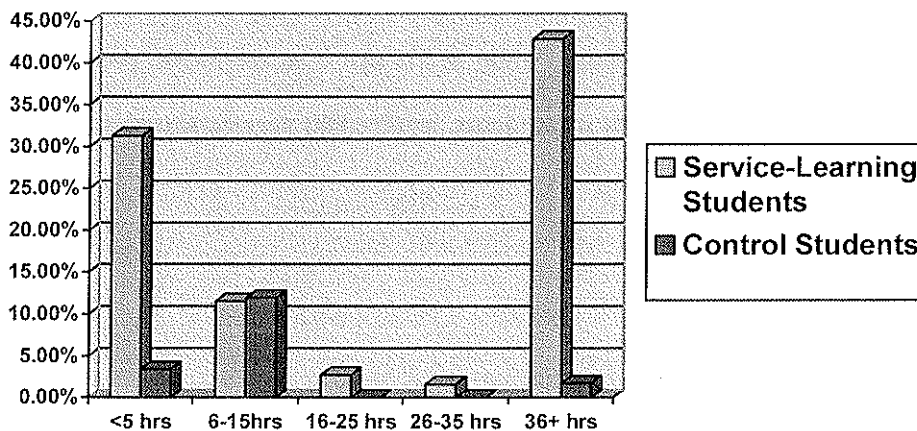
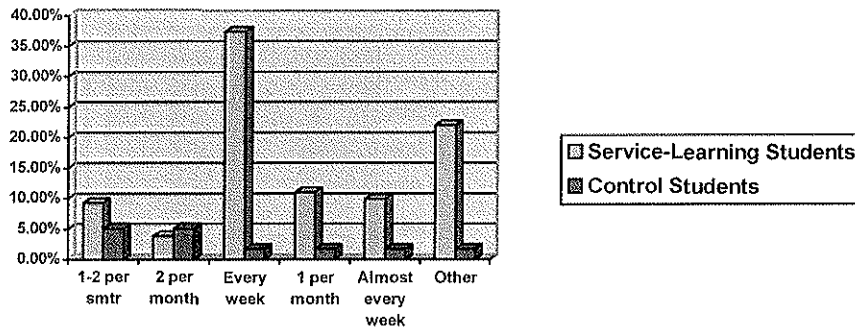


Figure 15

Frequency of Service



Service-learning students were asked their predictions about future service activities and responses are shown below in Table 8, below. When asked if they were likely to be involved in political or social issues, most (35.8%) responded “Somewhat likely” and 63.4% were somewhat likely, pretty likely, or very likely to be involved in political or social issues. Thirty-two percent said they were somewhat likely to volunteer to help others, with 73.9% somewhat likely, pretty likely, or very likely to volunteer. In protecting or preserving the environment, 32.8% felt it was somewhat likely, and 58.2% felt it was somewhat likely, pretty likely, or very likely, they would be involved in the environment. Finally, 27.6% felt it was pretty likely they would tutor, mentor, or coach in the future, with 71.7 % feeling somewhat, pretty, or very likely this would be in their future. Twenty-five percent predicted it pretty likely they would gain satisfaction from volunteering, while 73.2% saw it as somewhat, pretty, or very likely. To summarize, **between 58% and 74% of students involved in service-learning predicted future involvement in service activities.**

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Table 8

Predictions of Future Service Activities

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Activity	Median Likert Score	% "...Likely"
Involved in political/social issues	3	63.4
Volunteer to help others	3	73.9
Protect or preserve the environment	3	58.2
Tutor, mentor, or coach	4	71.7
Gain satisfaction	4	73.2

---

Service-learning students were asked to respond to the "Student Service-Learning Survey" regarding their opinions about society and civic responsibility. Appendix A includes the percentage of those students that agree or strongly agree to the questions. Also, in the "Checklist of Personal Gains", the students were asked their opinions regarding their development. Appendix B includes the percentage of respondents who agree or strongly agree to the statements.

The formula shown in Table 9, below, was used to calculate the students' total hours of service (mean hours x frequency of response) that totaled 3507.50. This number was multiplied by \$15.39 to obtain the monetary value of service performed by the students in the research study. **The monetary value of students' service was \$53,980.43.**

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Table 9

Value of Service Formula

Mean hours x frequency of response x \$15.39 = monetary value

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*B. Year One*

Similar challenges are faced as Year One data are analyzed because the "Pre-Baseline Data Form" and "Post-Baseline Data Form" respondents because the n is limited. Respondents included three

service-learning and three control groups. In looking toward the trend that appeared in Year One with regards to change for service-learning and control over the year, data was looked at again in the same manner.

This year, for the service-learning groups, one remained the same and one decreased in male absences, while both remained the same for female absences. Two decreased in terms of male discipline referrals, while one, the alternative school, increased. Finally, the alternative school, again, increased for female discipline referrals, while between the other two, one decreased and one remained the same (see Table 10, below).

In Table 10 it is shown, within the control groups, one decreased in male absences and one remained the same, while again, both remained the same for female absences. One increased with respect to male discipline, and one remained the same, while both increased in female discipline. **Although slightly different from the Pilot Phase, it still appears that, service-learning may have some effect on either reducing, or preventing an increase of unexcused absences and disciplinary referrals. It also seems to be slightly more prevalent in discipline referrals than absences.**

Table 10

Unexcused Absences and Disciplinary Referrals (Year One)

<u>Unexcused Absences</u>			<u>Disciplinary Referrals</u>		
	S/L	Control		S/L	Control
	Classes	Classes		Classes	Classes
Male			Male		
Decrease	50%	50%	Decrease	67%	0%
Same	50%	50%	Same	0%	50%
Increase	0%	0%	Increase	33%	50%

Female					
Decrease	0%	0%	Decrease	33%	0%
Same	100%	100%	Same	33%	0%
Increase	0%	0%	Increase	33%	100%

Using data from the “Checklist of Personal Gains” and the “Student Service-Learning Survey” the total hours and frequency of service was gathered for students participating in service-learning. This data was further analyzed with the mean GPAs of student responding to each answer. While there is no statistically significant correlation between hours and frequency of service and GPAs, in Table 11 and Table 12, below, it is evident that **most of the GPAs have increased from the Pilot Phase. In this analysis, the GPAs between the Pilot Phase and Year One are from a new group of students, so improvements may be more teacher related than student related.**

Table 11

Total Hours of Service vs. GPA means

Hours of service	GPA mean	
	(Pilot)	(One)
< five hours	2.31	3.17
Six to 15 hours	2.46	3.21
16-25 hours	2.98	2.95
26-35 hours	2.00	3.63
36+ hours	2.63	3.07

Table 12

Frequency of Service vs. GPA means

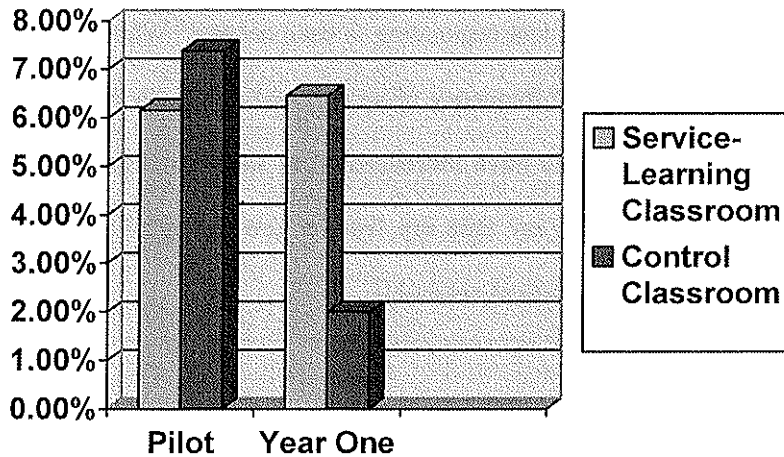
Frequency of service	GPA mean	
	(Pilot)	(One)
One to two times a semester	2.50	3.09
Once a month	2.35	3.45
Two times a month	3.25	3.02
Almost every week	2.98	2.13
Every week	2.40	3.39
Other	2.69	3.43

Contrary to data from the Pilot Phase, Year One information did not reveal the same pattern of time spent maintaining classroom discipline (see Figure 16 below). In the Pilot Phase, service-learning classrooms, on average, spent a lower percentage of class time maintaining discipline. Using data from

the “Pre-Baseline Data Form” and “Post-Baseline Data Form”, it may be more useful to compare improvements in both the Pilot Phase and Year One.

Figure 16

Time Spent Maintaining Classroom Discipline



Data shown in figures 17 and 18, below, display the trend emerge from the Pilot Year in regards to extracurricular activities. As in the Pilot Year, **both males and females involved in service-learning participate more in extracurricular activities.** In Year One, the average class participation for males and females, respectively, is 7.50 and 11.50 for service-learning classes, compared to only 3.30 and 2.00 for control classes. **The correlation between the participation of females in extracurricular activities and the service-learning or control variable was statistically significant (.924) at the 0.05 level.** Not surprisingly, **service-learning students also made up a greater percentage of the student population involved in extracurricular activities.** Specifically, the service-learning students surveyed accounted for almost 12.50% of the student body involved in extracurricular activities, while those control student surveyed generated about 3.5% of males and females engaged in extracurricular activities.

Figure 17

Class Means Extracurricular Activities

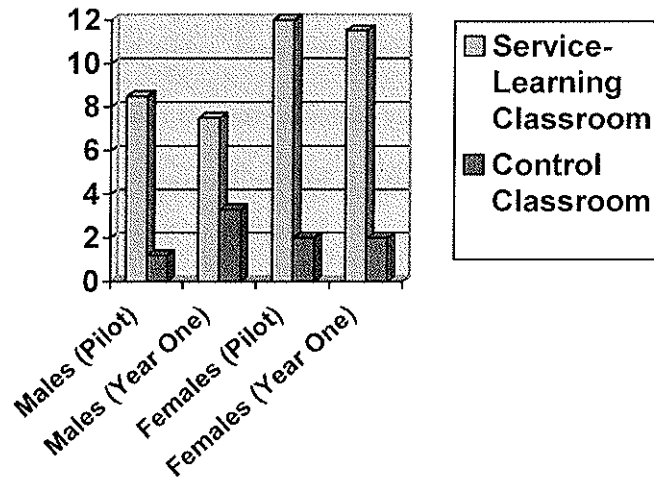
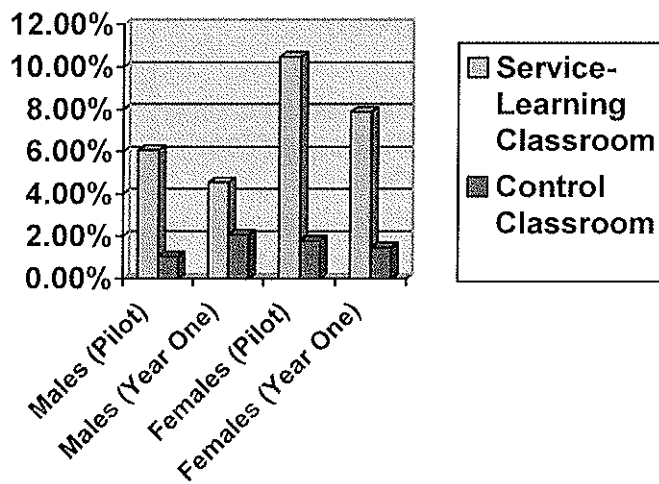


Figure 18

Percent Involved in Extracurricular Activities



Data was used from both the “Checklist of Personal Gains” and the “Student Identification Code” to compare responses of service-learning and control students about total hours of service, as well as the frequency of the service. This information, shared previously from the Pilot Phase, is displayed in



Figures 19 and 20, below, across both the Pilot Phase and Year One. In the Pilot Phase, most service-learning students totaled 36 or more hours, while during Year One, a larger percentage generated between six and fifteen hours of service (see Figure 19). Also during the Pilot Phase, the greatest percentage of service-learning students responded they performed service every week, while in Year One once or twice a month was the average for just over 30% of the service-learning students (see Figure 20). However, **service-learning students still provided service at a much higher frequency than control students, for more total hours.**

Figure 19

Total Hours of Service

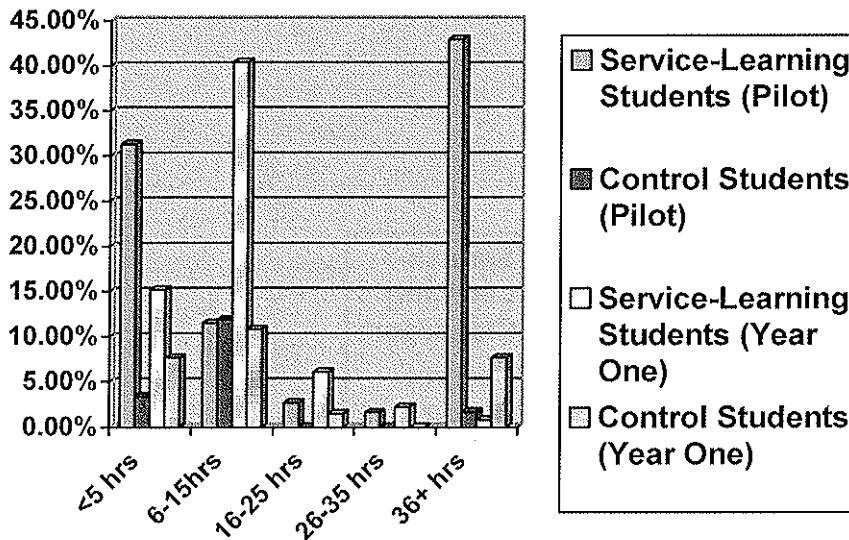


Figure 20

Frequency of Service

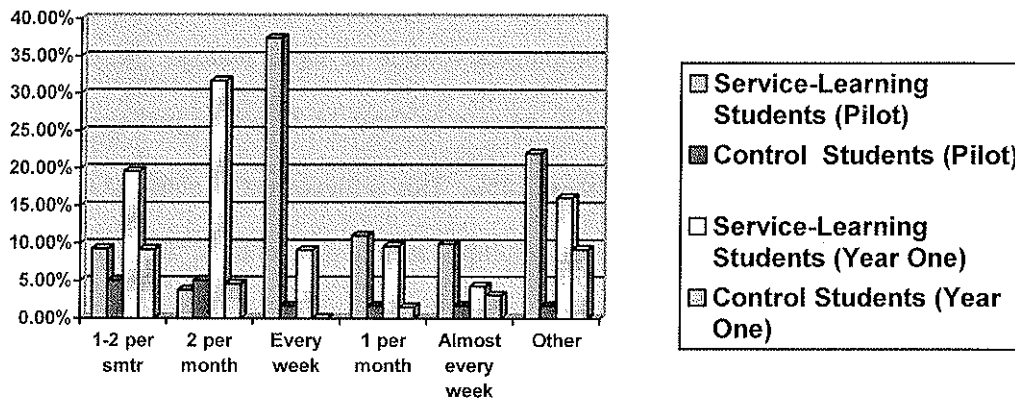


Table 13

Predictions of Future Service Activities

Activity	Median Likert Score		% "...Likely"	
	(Pilot)	(One)	(Pilot)	(One)
Involved in political/social issues	3	4	63.4	75.6
Volunteer to help others	3	4	73.9	86.6
Protect or preserve the environment	3	4	58.2	78.0
Tutor, mentor, or coach	4	4	71.7	89.2
Gain satisfaction	4	4	73.2	89.8

Regardless of how many respondents performed service once a year or once a week, totaling five hours or 35 hours, it is evident that involvement in service-learning increases the likelihood of continuing to serve the community. As the information in Table 13, above, reveals, even from the Pilot Phase to Year One, more students are seeing this for themselves. While the Pilot Phase data incorporated some hesitation about the likelihood of some future service activities, the students involved in Year One believe any or all of these activities to be pretty likely in their future. Also, **Year One heralds a greater**

**percentage of likelihood of future service activities by students than the Pilot Phase.** Finally, as a greater number of students become involved in service-learning throughout their lives, they begin to provide more than just service benefits. The monetary value of these students' service activities is extraordinary. Furthermore, it continues to grow. As seen in Table 14, below, **in just one year, students have increased their monetary value by almost 20%.** This achievement is obtained simply by more students providing more service. This value can multiply as students continue their efforts throughout their lives.

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Table 14

Value of Service Formula

Mean hours x frequency of response x \$15.39 = monetary value

(Pilot): 3507.50 mean hours x \$15.39 = \$53,980.43

(Year One): 4111.00 mean hours x \$15.39 = \$63,268.29

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*C. Year Two*

The data analysis thus far of Year Two reveals much of the same results as the Pilot Phase and Year One in terms of amount of service and GPA. These results showed a lack of a significant direct correlation between amount of service and GPA. However, Year Two's analysis began to look at indirect correlations between service and GPA. One of the findings revealed student survey opinions that were correlated to both GPA and amount of service. These opinions included:

- "There is a lot to be learned from old people"
- "I am a good team player"
- I know how to get things done"

Analysis of Year Two data also revealed a significant correlation between class and GPA.

Year Two data also includes that from the Higher Education component of the study. This component utilized pre and post surveys during a semester long course which involved service-learning. Data is still being entered and analyzed for the follow-up post surveys from this higher ed. group. This

will provide us with information regarding the changes in students from prior to beginning their service-learning to the completion of the service-learning project.

However, initial data from the pre-surveys reveals information about these students on a demographic basis, as well as information about what they did prior to college. Table 15 reveals that participation in service-learning at the university level is evenly split between males and females and a higher percentage of juniors, or those between ages 21 and 22, were involved in service-learning. Finally, those majoring in social sciences made up the majority of students participating in service-learning, while those in business, or math and sciences were lacking in service-learning participants.

---

Table 15

Age and Class of Higher Education Service-Learning Students

Age	Percentage Involved	Class	Percentage Involved
17-18	17%	Freshman	28%
19-20	28%	Sophomore	11%
21-22	39%	Junior	33%
23-25	6%	Senior	11%

---

Also, strong correlations were presented between some opinions of the surveyed service-learning college students to their participation in service-learning during their junior and senior years of high school (see figure 21 below). Also a significant correlation ( $.971 \leq .01$ ) was found between these students participation in their junior year in high school and their senior year in high school.

Figure 21

Survey Opinions and Correlation to High School Service-Learning

Survey Question	H.S. Junior Year	H.S. Senior Year
Adults should give some time for the good of their community	.692*	.671*
I feel that social problems are my concern		.627*
People who work in social service agencies can do much to really help in need	.771**	.781**
Government should be in the business of solving social problems	.828**	.886**
I feel that social problems directly affect the quality of life in my community	.669*	.689*
If I could change on thing about society, it would be to achieve greater social justice		
It is important to me to personally to volunteer my time to help people in need	.807**	.736**
I feel that I can play an important part in improving the well-being of my community	.608*	
It is important to me personally to have a career that involves helping people	.626*	.590*
Community service will help me develop leadership skills	.663*	.641*

\* sig. @ .05 level (2-tailed Pearson Coefficient)

\*\*sig. @ .01 level (2-tailed Pearson Coefficient)

IV. DISCUSSION

From May Through August, final surveys are collected, data entered, and results provided from each year of Learn and Serve Ohio's longitudinal service-learning research study. This study is conducted using an experimental design with six sets of service-learning/control partners at a school building, representing both elementary and secondary school levels. The second year of the study continues to support trends found in the first year. These trends documented:

- service-learning classes had a larger decrease in male absences;
- service-learning classes had a smaller increase in disciplinary referrals;
- service-learning teachers were found to spend slightly less time maintaining discipline;

- service-learning students indicated positive attitudes in predicting future service involvement and student opinions of growth personally, socially, and academically.

While the results from the second year supported these findings, the second year also provided the study with a group of tracked students who had been involved during the first year. An important interim finding is that the percentage of positive attitudes and opinions among these tracked students increased in all areas of student development. This suggests the resiliency of the effects of service-learning participation.

The second year results also suggested a need to analyze each program from a qualitative perspective to understand the characteristics of the more successful programs. This will be implemented because of the findings of a significant correlation between each program and grade point average (GPA) scores. Additionally, while there was not a direct correlation between GPA scores and the amount of service, there were several survey questions that were significantly correlated to both, suggesting certain values obtained from participating in service-learning may be more of a factor in student achievement than actual participation time. Clearly, the third year of the longitudinal study, especially with a qualitative component, will provide a potential new direction for service-learning in public elementary and secondary schools.

Finally, during the second year we added higher education participation, using a similar design but a different survey, tailored to higher education students. While results of the pre/post surveys are still being analyzed, the demographics of the pre-surveys have been analyzed with some interesting findings. Just as we found in the k-12 arena, service-learning participation by gender is fairly equal between males and females. It has also been seen that those students more often participating in service-learning are those majoring in the humanities, social sciences, and education. There is obvious reason why these college majors are a natural fit with service-learning. However, our study is beginning to reveal a critical need to provide those higher education students majoring in math/science fields and business more service-learning opportunities. This will be a trend to observe over the future years of the study. Finally, there was a significant correlation to several opinions commonly associated with service-learning and the

participation of these college students during their junior and senior years of high school. This provides more evidence to the resiliency of the impacts of service-learning on personal and social development mentioned previously.

The Learn and Serve longitudinal research study began its third year of evaluation on the effects of service-learning on student attendance, at-risk behaviors, and areas of development, such as academic, personal, and social development, as well as values and career exploration in elementary, secondary, and post-secondary students. Due to findings from the end of the second year, a new focus of the study will include more than whether or not service-learning programs have positive impacts, but why. It is the researchers' beliefs that more qualitative data will provide information as to the different aspects of each program in the study to understand the characteristics of the more successful service-learning programs. The third year data providing pre-survey information has been collected, but third year results will be forthcoming in the spring after which time post-surveys have been distributed as well as those surveys distributed annually to students in previous cohorts in order to provide the longitudinal information.

Appendix A

Student Service-Learning Survey Responses

Reflecting both the Pilot Phase and Year One, the following percentages are presented of those that “agree” or “strongly agree” (those with \*\* are percentages of “disagree” or “strongly disagree” because of the nature of the question):

<i>As a student, I...</i>	<b>Pilot</b>	<b>One</b>
Believe that taking care of people who are having trouble taking care of themselves is everyone’s responsibility...	37.3%	70.0%
Enjoy being around people whose backgrounds and experiences are different from mine...	59.0%	78.0%
Am usually motivated to take advantage of opportunities to learn more than the minimum required to pass the tests...	47.7%	75.6%
Often seek out challenging opportunities that test my skills and abilities...	53.7%	83.5%
Have a sense of “usefulness” in relation to my community; e.g., I know who to talk to so that my concerns and ideas will be heard...	47.0%	76.4%
Believe that helping a person in need is something people should only do for friends or relatives...**	58.2%	61.4%
Believe that there is not a whole lot to be learned from old people...**	20.9%	70.9%
Believe that, on a project, it is everyone’s responsibility to make sure the work gets done...	76.2%	85.9%
Am a good team player...	69.4%	86.6%
Know how to get things done...	79.1%	87.4%
Am aware of the problems in my community and which organizations are working to address them...	35.8%	61.4%
Believe that you should nearly always get paid for helping others...**	50.0%	66.1%
Usually treat other people with dignity and respect, regardless of who they are and where they come from...	70.9%	85.0%
Believe that being actively involved in community issues is everyone’s responsibility, including mine...	44.8%	74.0%
Believe that young people like me can have a positive impact on school and/or communities...	68.7%	83.5%
Want to help other people, especially those who have special needs because of the economic, racial, social, mental, or physical situation...	65.7%	80.3%
Believe that most problems will solve themselves if you just leave them alone...**	58.2%	65.3%
Would have no problem working with a person whose race or ethnicity differs from mine...	75.4%	83.5%
Think that students should be required to perform service projects in the community in order to graduate...	35.8%	53.5%
Believe that people with disabilities can hold jobs and contribute to society...	61.9%	74.0%
Am concerned about the problems and needs of my fellow human beings...	59.0%	73.2%
Believe it is up to the experts to solve problems in my community...**	53.7%	55.9%
Have a generally positive attitude about school...	48.5%	70.8%
Believe that I can change what might happen tomorrow by what I do today...	64.9%	79.5%
Have trouble linking learning in school to real life...**	35.0%	40.2%



## Appendix B

### Checklist of Personal Gains

From the Pilot Phase and Year One, the following percentages are presented of those that “agree” or “strongly agree”:

	<b>Pilot</b>	<b>One</b>
My self-confidence and a sense of competence have improved.	72.5%	84.0%
I am more assertive and independent.	75.9%	78.3%
I am more able to accept the consequences of my choices and actions.	72.0%	83.0%
I feel more responsible for my life.	78.1%	90.9%
I have been able to put into practice beliefs and values which are important to me.	70.4%	83.9%
I am more open to new experiences and more willing to take risks and accept challenges.	79.7%	83.5%
I have an increased ability to get things done and work effectively with others.	73.6%	85.6%
I have more realistic attitudes towards other people – such as the poor, the elderly, and those who have backgrounds different from mine.	80.2%	84.8%
I believe more strongly that I have the ability to make a difference in my school and community.	67.6%	82.6%
I have become more comfortable working with people whose backgrounds differ from mine.	72.0%	80.5%
I have become more concerned about the well-being of others	73.1%	86.0%
I feel more responsible to my group or class.	66.0%	77.4%
I am more willing to explore new identities and unfamiliar roles in my school and community.	66.0%	76.5%
I feel a greater sense of usefulness in relation to my community.	66.0%	75.6%
I am more motivated to learn, participate and achieve in school.	69.3%	72.2%
I am more able to use what I have learned in school and in life to solve problems.	65.4%	82.6%
I have grown in my ability to gather and analyze information, observe and reflect on the meaning of my experiences.	70.3%	80.9%
I have grown in my ability to give and accept constructive feedback (negotiation).	65.4%	72.2%
I have become more aware of problems in my community.	69.8%	77.8%
I have become more aware of resources in my community.	64.8%	74.8%
I have improved my communication skills (listening, speaking, presenting ideas through a variety of media).	69.8%	77.8%
I have more realistic ideas about the world of work and what employers expect of me.	73.6%	82.2%
I have grown in my ability to use computers to gather and help me understand information more effectively.	61.5%	72.7%
I have learned how to make better use of my time.	63.2%	76.9%
I have been able to explore a wide range of possible career options.	62.6%	75.2%