

The Impact of Service-learning Course Characteristics on University Students' Learning Outcomes

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Undergraduate students' reports of their service-learning course experiences and their gains from participation in those courses were investigated with a sample of 250 students at Tulane University. The students completed a survey in which they rated their service-learning courses in terms of three aspects: Value of Service, Focus on Service, and Opportunities for Reflection. These course attributes predicted students' reported outcomes from service-learning, including Learning about the Community, Academic Learning, Gains in Problem-solving and Leadership Skills, and Satisfaction with the University. A Social Change orientation in the service-learning course contributed independently to the prediction of outcomes. Replicating an earlier study, a "match" between student preferences for service orientations and the nature of service experienced was shown to predict service-learning course outcomes for students who expressed a positive orientation preference.

In a previous study, Moely and Ilustre (2013a) showed that longitudinal changes in certain civic attitudes and knowledge were related to the experiences that students had at a university characterized by a strong commitment to community engagement. In this paper, we attempt to identify aspects of students' experiences, especially related to their service-learning courses, that were important for learning outcomes. The importance of students' own preferences for different kinds of service was also investigated.

The students' experiences in service-learning were examined through a consideration of the quality of their service-learning courses. The National Youth Leadership Council has published standards for high quality service-learning for Grades K through 12 (Billig, 2007). The eight "promising practices" for K-12 service-learning that Billig describes are curriculum integration, ongoing cognitively challenging reflection activities, youth voice, respect for diversity, meaningful service, progress and process monitoring, duration of service-learning activity, and reciprocal partnerships. Many scholars have addressed the issue of high-quality service-learning in higher education, but there is still limited research on the effects of course characteristics on student outcomes.

Bringle, Hatcher, and Muthiah (2010) conducted one of the few efforts to date to measure service-learning course quality. They were interested in whether service-learning participation might affect retention in college and to study this, compared the effects of service-learning participation with that of enrollment in non-service-learning courses. To index quality for both service-learning and non-service-learning courses, they developed a 24-item "Quality of the Learning Environment" scale. Items concerned the extent of peer and faculty interaction,

course satisfaction, perceived learning, degree of active learning, and personal relevance. They found that course quality was important as a mediator of service-learning effects on students' plans for continued study at the university and their actual re-enrollment the following year.

Furco and Moely (2006) developed a 12-item scale to measure course quality, aimed more specifically at service-learning. They found, in a large, multi-campus study, that course quality was predictive of service-learning outcomes reported by college students. The same scale was used in a longitudinal study at Tulane (Moely & Ilustre, 2011, 2013a) from which the data for the present study were derived. In the present study, factor analysis and content analysis were used to group the course quality items into three categories, providing a more detailed description of service-learning course quality: Value of Service, Focus on Service, and Opportunities for Reflection. Value of Service reflects Billig's category "meaningful service" but adds self-evaluation items about how well the service was performed. Focus on Service includes integration of the service component with the academic course content, similar to Billig's "curriculum integration," as well as preparation of both students and community agencies for the student's service. Opportunities for Reflection, similar to Billig's reflection category, concerns written and oral reflection for building course-service connections and increasing understanding of personal and social issues (Hatcher, Bringle, & Muthiah, 2004).

In addition to these quality indicators, we considered an aspect of service-learning courses that has been widely discussed but rarely studied. Morton (1995) contrasted three different paradigms of service: Charity, Project, and Social Change. He asserted that

each paradigm carries a distinct worldview, has a unique way of characterizing and addressing social problems, and has a particular long-term vision of individual and community transformation. Our previous work has focused on the Charity and Social Change paradigms (Moely, Furco, & Reed, 2008; Moely & Ilustre, 2013b), as was the case in the present study. Charity is viewed by Morton as the provision of direct service, limited in time and having limited impact on the problem responsible for the difficulties of the individual(s) being served. Social Change is concerned with empowering individuals to promote needed changes in social systems. Bringle, Hatcher, and McIntosh (2006) supported Morton's assertion that students express clear preferences for the different paradigms of service. They found that initial preferences for the charity orientation (also shown by Moely & Miron, 2005) diminished as students developed greater integrity (identity and commitment).

Most recommendations for service-learning emphasize the desirability of taking a social change rather than a charity orientation (for example, Conley & Hamlin, 2009; Mitchell, 2008; Tilley-Lubbs, 2009). Moely et al. (2008) found that it was possible for students to reliably characterize their service-learning course experiences in terms of how much they exemplified Charity and Social Change orientations. The present study attempted to relate such descriptions of course orientations to indices of course quality and to determine whether quality and orientation jointly would predict student outcomes from service-learning.

Another aspect of the present research was the question of how student preferences for charity or social change orientations to service would predict learning outcomes. Moely et al. (2008) showed that a match between preferred orientation and the nature of the service experience predicted positive learning outcomes for students who expressed an initial preference for either charity or social change. Although the present study involves a smaller number of students, a partial replication was possible.

A number of studies have found positive outcomes from service-learning. Warren (2012), through a meta-analysis of 11 studies, concluded that service-learning increases student learning, and that this effect holds both for self-reports of learning and for more independent measures such as course examinations and assignments. Novak, Markey, and Allen (2007), in an earlier meta-analysis, looked at the impacts of service-learning on aspects of cognitive learning (including enhanced academic understanding of subject matter, ability to apply knowledge and skills learned in one setting to another setting, and ability to reframe complex social issues). The studies they included used a variety of criteria to measure

service-learning outcomes, including course exam scores and assignments, faculty reports, and student self-reports of learning.

In the present study, outcomes from service-learning course experiences were measured by asking students to rate items indicating the effects of their service-learning course participation. Two obvious outcomes from service-learning are learning about the community in which the service takes place and learning the content of the academic course within which service is situated. We also included scales on which students could rate possible gains in problem-solving and leadership skills, and a scale on which students indicated the extent to which service-learning had increased their satisfaction with the university. Two of the scales, Learning about the Community and Satisfaction with the University, are shorter versions of scales used by Moely et al. (2008), while the others were added for the present study. Previous research has shown positive benefits of service-learning for many of these outcomes (Eyler & Giles, 1999; Hahn & Hatcher, 2013; Moely, McFarland, Miron, Mercer, & Ilustre, 2002).

Both Warren (2012) and Novak et al. (2007) used studies that included control or comparison groups and measured learning outcomes. Except for the requirement that service be integrated into an academic course, neither study took into account particular service-learning course characteristics. As Novak et al. point out: "A title like 'service-learning' does not guarantee improvement in outcomes unless the process is linked to desirable, demonstrable, and clear procedures and goals. The next generation of research should begin to examine how the varying definitions and elements of service-learning contribute to various outcomes" (p. 156). In line with this recommendation, an aim of the present research was to relate service-learning course characteristics to students' learning outcomes.

The following research questions were addressed:

1. How well do aspects of service-learning course quality predict student reports of learning and other beneficial outcomes from those courses?
2. Do students' service experiences, described in terms of Morton's charity and social change paradigms, predict service-learning outcomes?
3. Does a match between students' preferences for charity or social change orientations to service and their actual experiences with service affect their learning outcomes?

Method

Research Participants

Research participants were 250 students who completed surveys at the end of their sophomore or

Table 1
Service-learning Course Quality Indicators

Instructions: *Below are some statements about service learning and experiences with service learning. Please answer these for your MOST RECENT SERVICE-LEARNING COURSE. You will agree with some items, disagree with others, and have no opinion about others. Please use the scale below to indicate your degree of agreement with each item. Do this by writing the appropriate number in the blank to the left of each statement. Please be open and honest in your answers. It would help us most if you do not skip any questions.*

1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Neither Disagree Nor Agree, 4 = Somewhat Agree, 5 = Strongly Agree

VALUE OF SERVICE

I feel that my service-learning activity was worthwhile.

I accomplished something in my service-learning activity.

My service-learning activity met real needs of the community.

In my service-learning experience, I was appreciated when I did a good job.

I did a good job in my service-learning activity.

Internal Consistency *Alpha* (5 items, $N = 221$) = .90

FOCUS ON SERVICE

The community organization in which I worked was ready to receive service-learning students.

In service learning, I was free to develop and use my ideas.

I was well-prepared to engage in the service I did for this course.

The service-learning experience was an integral part of my college course, not just an “add on” activity.

Internal Consistency *Alpha* (4 items, $N = 206$) = .80

OPPORTUNITIES FOR REFLECTION

I had opportunities to reflect on my service-learning experience through discussions with faculty, students, and community members.

I had opportunities to reflect on my service-learning experience through written journals and papers I did for the course.

Internal Consistency *Alpha* (2 items, $N = 227$) = .72

beginning of their junior year at the university. Included in this group were 147 students who had completed a survey at college entry and 103 students who were new to the research. Participants in the present study averaged 20.11 years of age at the time they completed the survey; 69% were female and 84% were White. Most (94%) planned to pursue advanced education, with 42% aiming for Master's degrees, 37% planning to attend professional schools, and 15% intending to work for the Ph.D. Students planned careers in medicine (19%), business (13%), law (12%), and a variety of other fields.

Measures: Independent Variables

Service-learning course quality. Students were asked to describe their most recent service-learning course in terms of the extent to which it involved aspects of high-quality service-learning using the Service-learning Course Quality scale described by Moely and Illustre (2013a). This scale was developed originally by Furco and Moely (2006). Students described their service-learning courses by rating them on attributes that characterize high quality service-learning. The items fell into clusters concerned with the value of the students' community service, the extent to which service-learning was given special attention in planning and implementing the course (so that students and community agencies

were prepared for the service experience and the service was integrated into the course), and whether the student was given opportunities for oral and written reflection. Items are shown in Table 1.

Service-learning course orientations. Students used the Community-Service Approaches Scales to rate their service-learning courses as to how much the course emphasized a charity orientation and a social change orientation. Charity Orientation and Social Change Orientation scales were adapted from those created by Moely and Miron (2005) and previously studied by Moely et al. (2008). Items are shown in Table 2.

Also shown in Table 2 are the scales used to measure students' preferences for service activities typical of either a Charity or a Social Change orientation. As in Moely et al.'s study (2008), these scales were used in determining the extent to which students' preferences matched the kind of service they carried out for their service-learning course.

Measures: Dependent Variables

Outcomes from service-learning course participation. Students were asked about what they might have gained from their service-learning course work, with items addressing their learning about the community, their academic learning, their gains in problem-solving and leadership, as well as their satisfaction with

Table 2

Community-Service Approaches Scales: Measuring Orientations of the Service-learning Course and Preferences for Charity- and Social Change-oriented Service

Characterizing the Service Experience Associated with a Service-learning Course

Instructions: *The following statements describe different kinds of public service activities. Please rate each statement as to how much it characterizes your MOST RECENT SERVICE-LEARNING COURSE.*

1 = Not at all, 2 = Minimal extent, 3 = Moderate extent, 4 = Large extent, 5 = Great extent

Charity-oriented Experience

- Becoming involved in helping individuals.
- Helping those in need.
- Making a major difference in a person's life.
- Working to give others the necessities that they lack.

Internal Consistency *Alpha* (4 items, $N = 225$) = .90

Social Change-oriented Experience

- Changing public policy for the benefit of people.
- Contributing to social change that affects us all.
- Working to address a major social ill confronting our society.
- Working to reshape the world in which we live.

Internal Consistency *Alpha* (4 items, $N = 222$) = .87

Personal Preferences for Service Orientations

Instructions: *The following statements describe different kinds of public service activities. Please rate each statement as to how much you would like to engage in this type of service.*

1 = Very much dislike, 2 = Somewhat dislike, 3 = Neither like nor dislike, 4 = Somewhat like, 5 = Very much like

Charity Orientation

- A service placement where you can really become involved in helping individuals.
- Helping those in need.
- Making a major difference in a person's life.
- Working to give others the necessities that they lack.

Internal Consistency *Alpha* ($N = 140$, 4 items) = .90

Social Change Orientation

- A service placement where you can contribute to social change that affects us all.
- Working to address a major social ill confronting our society.
- Working to reshape the world in which we live.
- Changing public policy for the benefit of people.

Internal Consistency *Alpha* ($N = 142$, 4 items) = .88

their university. Some items included in the measures of Academic Learning and Gains in Problem-solving Skills were added after the first year of data collection, so that sample sizes are smaller for those than for the other outcome measures. Items are shown in Table 3.

Procedure

Data collection. Students who had completed an earlier survey (Moely & Ilustre, 2011) were contacted by e-mail and invited to complete the survey, which was made available on the Student Voice website (Student Voice, n.d.) Additional participants were recruited from the same cohort of students. All potential participants were informed that their names would be entered into a drawing for prizes upon survey completion. Prizes offered were gift certificates for restaurants or day spas or an iPad. The University IRB approved the research project.

Service-learning and community service opportunities. Tulane University established a public service graduation requirement in 2006. All undergraduates are required to complete at least one service-learning course by the end of their second year of study at the university and a second academic public service experience (advanced course, internship, research project) before graduation. Courses designated as service-learning are formally approved by two faculty Curriculum Committees: a sub-committee of the Center for Public Service's Executive Committee and the university's undergraduate Curriculum Committee. Courses are evaluated for rationale, choice of community partner(s), reflection opportunities for students, integration of service and course content, and clear criteria for assessing student learning. To ensure community agency involvement, job descriptions are developed and faculty members are encouraged to meet with and communicate with agency representatives.

Table 3
Service-learning Outcomes

Instructions: *Below are some statements about service learning and experiences with service learning. You will agree with some, disagree with some and have no opinion about others. Please use the following scale to indicate your degree of agreement with each item. Do this by writing the appropriate number in the blank to the left of each statement. Please be open and honest in your answers. It would help us most if you do not skip any questions. Use the 5-point scale below.*

1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree Nor Disagree, 4 = Agree, 5 = Strongly Agree

Learning about the Community

Through my service-learning courses, I have:

- Become more aware of the community of which I am a part.
- Changed the way I think about the community/ies in which I worked.
- Learned to see social problems in a new way.
- Learned to appreciate different cultures.
- Changed the way I think about societal problems.
- Learned about the community.

Internal Consistency *Alpha* (6 items, $N = 154$) = .91

Academic Learning

Through my service-learning courses, I:

- Became more interested in the academic content of my service-learning course(s).
- Made decisions about my major area(s) of study.
- Gained a deeper understanding of things I learned about in my courses.
- Applied things I learned in my service-learning activity to my college course.
- Changed my plans for my career and life's work.
- Studied more diligently and intensively than I typically had before.
- Learned to apply concepts from my service-learning course to real situations.

Internal Consistency *Alpha* (7 items, $N = 81$) = .90

Gains in Problem-solving Skills

Through my service-learning courses, I have:

- Improved my ability to think creatively.
- Improved my ability to solve problems.
- Felt encouraged to form my own solutions for problems.

Internal Consistency *Alpha* (3 items, $N = 90$) = .86

Gains in Leadership Skills

Through my service-learning courses, I have:

- Practiced my ability to lead and make decisions.
- Developed my leadership skills.
- Had opportunities to take a leadership role.
- Worked with other students in a leadership role.

Internal Consistency *Alpha* (4 items, $N = 205$) = .92

Satisfaction with the University

Through my service-learning courses, I have:

- Become more positive about being at this college/university.
- Become more likely to stay at this college/university until I graduate.
- Become more satisfied with the opportunities my college/university offers me.
- Become more likely to recommend my college/university to other students.
- Become more likely to continue study at this college/university.

Internal Consistency *Alpha* (5 items, $N = 185$) = .94

Note: Scales measuring gains in academic skills and problem-solving contain items that were added after the first year, so that the total number of participants completing them is lower than for the other scales.

Nearly all of the students (98%) had completed at least one service-learning course by the time they participated in this research: 68% had completed just one, and 30% had completed two or more service-learning courses. (Four additional students had not yet taken a service-learning course and did not contribute data to the analyses.) Service-learning courses that students described in their ratings represented

35 different departments or programs at the university. Most frequently represented were Business (13% of courses), Latin American Studies (12%), and Education (8%). Because students completed these courses during their first two years at the university, 12% of the courses included in the present study were introductory courses in the disciplines and another 16% were offered as one-credit courses

Table 4

Students' Reports of Outcomes from Service-learning Course Participation: Mean Scores and Intercorrelations

Outcome	N	Mean	SD	Correlations of Outcome Measures			
				Academic Learning	Problem Solving	Leadership	Satisfaction
Learning about the Community	154	3.53 ^a	.93	.67***	.63***	.53***	.79***
Academic Learning	81	3.00 ^c	.94		.61***	.52***	.67***
Gains in Problem-solving Skills	90	3.14 ^b	1.03			.85***	.65***
Gains in Leadership Skills	205	3.28 ^b	1.07				.67***
Satisfaction with the University	185	3.26 ^b	1.04				

Notes: Mean scores with the same superscripts do not differ.

*** All correlations of outcome measures are significant at $p < .001$.

through a special program for incoming students called TIDES (Tulane Interdisciplinary Experience Seminars; see Tulane University, n.d.) More than half of the students (56%) reported doing 16-30 hours of service for their service-learning course; 36% reported more than 30 hours, 7% did 10-15 hours, and less than 1% students reported completing fewer than 10 hours of service.

Results

Students' views of the outcomes they experienced from participation in service-learning courses are summarized in Table 4. Students' ratings of Learning about the Community were higher than ratings of other outcomes, while Academic Learning was rated less positively than the others. Mean scores could range from 1-5 points, so that none of the outcomes received the maximum possible scores. All ratings of outcomes were positively related: Learning about the Community was strongly related to Satisfaction with the University and moderately related to the two cognitive measures (Academic Learning and Gains in Problem-solving Skills). Gains in Leadership and Problem-solving Skills were strongly related, as well.

The first and second research questions were concerned with characteristics of service-learning courses that might predict students' reports of gains from those courses. Course characteristics included aspects of Service-learning Course Quality (Table 1) and Service-learning Course Orientations (Table 2). Value of Service, Focus on Service, Reflection Opportunities, and Charity Orientation were all positively interrelated (bivariate r 's ranging from .37 to .80, all statistically significant at $p < .001$). The correlations involving the Social Change Orientation of the courses, while statistically significant at $p < .001$, were somewhat lower in magnitude (bivariate r 's ranged from .27 to .44).

Regression analyses were done to predict outcomes of service-learning experiences from a combination of personal characteristics and course qualities. Each analysis was set up to consider demographic variables

(Age, Gender) in the first step, followed by indicators of service-learning course quality (Value of Service, Focus on Service, and Opportunities for Reflection) in the second step, with Course Orientations (Charity and Social Change) entered in the third step. Table 5 summarizes findings for the outcomes most closely associated with service-learning course benefits: Learning about the Community and Academic Learning each were predicted strongly by the Course Quality composite. Looking at individual scales, each of these learning outcomes was predicted by the Value of the Service associated with the course and the Opportunities for Reflection offered in the course. After demographic and Course Quality variables had been accounted for in the first two steps in the analysis, the Social Change Orientation made or tended to make an additional contribution to each outcome: Courses that included an emphasis on social change had a positive impact on learning about the community and also tended to affect academic learning. The Charity Orientation did not contribute independently to learning outcomes, probably because it was highly correlated with Course Quality variables, as indicated above.

The next set of analyses considered three outcomes that may be described as more "distal" effects of service-learning: Students reported on the extent to which they felt that service-learning course experiences had contributed to gains in their problem-solving and leadership skills and their general satisfaction with the university. As shown in Table 6, the course quality composite predicted each outcome: Students' reports of the Value of the Service and Focus on Service were significant predictors for all three variables. Course Orientation was less important for these variables, with significant prediction for Satisfaction with the University and a trend for Gains in Leadership Skills, both due to the influence of the Social Change orientation.

The third research question asked about the importance of the service orientation preferences students brought to the service-learning course. Scales shown in Table 2 were used to measure student preferences for service activities reflecting charity or social

Table 5
Regression Analyses Predicting Students' Learning about the Community and Academic Learning from Perceived Characteristics of Their Service-learning Courses

Outcomes:	Learning about the Community			Academic Learning		
Predictors:	<i>b</i>	<i>SE b</i>	β	<i>b</i>	<i>SE b</i>	β
Step 1: Personal Characteristics						
Age	0.08	0.09	0.08	-0.14	0.17	-0.1
Gender	0.02	0.18	0.01	-0.04	0.26	-0.02
Step 2. Service-learning Course Quality						
Value of Service	0.39	0.1	.40***	0.42	0.13	.42**
Focus on Service	0.14	0.1	0.15	0.14	0.14	0.14
Opport. for Reflection	0.21	0.08	.22**	0.28	0.1	.28**
Step 3. Course Orientation						
Charity Orientation	-0.02	0.08	-0.02	-0.03	0.11	-0.04
Social Change Orient.	0.17	0.06	.20**	0.21	0.1	.24*

Note: Course Quality variables in combination predicted each outcome:

For Learning about the Community, Step 2 prediction was significant, $F(3, 124) = 34.73, p < .001$

For Academic Learning, Step 2 prediction was significant, $F(3, 63) = 21.99, p < .001$

Course Orientation variables in combination predicted each outcome:

For Learning about the Community, Step 3 prediction was significant, $F(2, 122) = 3.56, p < .05$

For Academic Learning, Step 3 prediction approached significance, $F(2, 61) = 2.63, p = .08$

Statistical significance of variables contributing to these predictions is indicated in the table, as follows: * $p < .05$ ** $p < .01$ *** $p < .001$

Table 6
Regression Analyses Predicting Students' Gains in Problem-solving and Leadership Skills and Their Satisfaction with the University

Outcomes:	Gains in Problem-solving Skills			Gains in Leadership Skills			Satisfaction with the University		
Predictors:	<i>b</i>	<i>SE b</i>	β	<i>b</i>	<i>SE b</i>	β	<i>b</i>	<i>SE b</i>	β
Step 1: Personal Characteristics									
Age	-0.1	0.18	-0.07	0.08	0.09	0.07	0.08	0.09	0.07
Gender	-0.11	0.27	-0.05	-0.26	0.18	-0.12	0.01	0.18	0.01
Step 2. Service-learning Course Quality									
Value of Service	0.33	0.14	.31*	0.27	0.1	.25**	0.33	0.11	.30**
Focus on Service	0.37	0.15	.33*	0.48	0.11	.45***	0.41	0.11	.39***
Opport. for Reflection	0.2	0.11	0.18	0.08	0.08	0.07	0.11	0.08	0.11
Step 3. Course Orientation									
Charity Orientation	-0.17	0.11	-0.18	0.01	0.07	0.02	-0.04	0.08	-0.05
Social Change Orient.	0.17	0.1	0.18	0.13	0.06	.13*	0.15	0.06	.17*

Note: Course Quality variables in combination predicted each outcome:

For Gains in Problem-solving Skills, Step 2 prediction was significant, $F(3, 68) = 22.64, p < .001$

For Gains in Leadership Skills, Step 2 prediction was significant, $F(3, 167) = 55.63, p < .001$.

For Satisfaction with the University, Step 2 prediction was significant, $F(3, 150) = 52.75, p < .001$

Course Orientation variables in combination predicted two of the outcomes:

For Gains in Leadership Skills, Step 3 prediction approached significance, $F(2, 165) = 2.52, p = .08$

For Satisfaction with the University, Step 3 prediction was significant, $F(2, 148) = 3.08, p < .05$

Statistical significance of variables contributing to these predictions is indicated in the table, as follows: * $p < .05$, ** $p < .01$, *** $p < .001$

change. For 147 students who completed the survey at college entry and again after two years, preferences were quite stable over time, showing correlations of $r = .51$ for the Charity Orientation and $r = .43$ for the Social Change Orientation, both significant at $p < .001$. Students expressed stronger preferences for the Charity Orientation than for the Social Change Orientation [M 's were 4.47 ($SD = .66$) for Charity and 4.15 ($SD = .91$) for Social Change]. The difference in these preferences was significant, according to a repeated measures analysis of variance: $F(1, 203) = 37.96, p < .001$.

To look at the impact of student preferences on course outcomes, we used a procedure developed by Moely et al. (2008) to group participants: Those high in Charity preferences ($n = 26$) were above the median for the entire group in their endorsement of Charity items and below the median in their ratings of Social Change items. Another group showed a preference for Social Change ($n = 26$). There were also two larger groups that did not differentiate between the two orientations: 70 students were below the median in ratings of both Charity and Social Change (the Low Value Undifferentiated group), and 84 students were above the median in their preferences for each orientation (the High Value

Undifferentiated group). Similarly, median splits of service-learning course ratings were used to group individuals' service-learning experiences into Charity ($n = 30$), Social Change ($n = 48$), Low Charity – Low Social Change ($n = 73$) and High Charity – High Social Change groups ($n = 70$). Then, comparisons of the groupings for preferences and course experiences were made in order to form two groups: Those who showed a match between their preferences and the ratings of their service-learning course experience and those who did not show a match. A total of 89 students showed a match between personal preference and course experience, while 106 students showed a mismatch.

Analyses of variance performed on each of the five outcome measures showed significant differences between the Match and No Match groups, with mean scores higher for the Match groups on all outcome measures (for Learning about the Community, Leadership, and Satisfaction with the University, $p < .01$; for Academic Learning, $p < .05$; means for Gains in Problem-solving Skills showed only a trend, $p = .08$, but with mean scores again favoring the Match group). However, these effects are qualified by a consideration of student preferences, for which we followed in part the procedure used by Moely et al.

Table 7
Students' Service-learning Course Outcomes as a Function of Service Preferences and Match of Preferences with Course Characteristics

Preference Groups	Match Groups	Service-learning Course Outcomes				
		Learning about the Community	Academic Learning	Gains in Problem-solving Skills	Gains in Leadership Skills	Satisfaction with the University
Charity Preference, Social Change Preference, and High Value Undifferentiated Groups Combined	Match ($N = 63$)	4.12 -0.66	3.61 -0.79	3.67 -0.93	3.89 -0.89	3.97 -0.86
	No Match ($N = 65$)	3.2 -0.97	2.76 -0.97	2.97 -1.1	2.93 -1.13	3.02 -1.03
Low Value Undifferentiated Group <i>(Low preference for service involving either Charity or Social Change)</i>	Match ($N = 26$)	3.07 -0.83	2.36 -0.84	2.82 -0.98	2.64 -1.13	2.62 -0.76
	No Match ($N = 41$)	3.43 -0.87	2.87 -0.61	3.07 -0.76	3.36 -0.77	3.22 -0.97

Notes: Analyses of variance showed significant interactions of Preference Group x Match/No Match for each of the Outcome variables:
 For Learning about the Community, a test of the interaction effect yielded $F(1, 132) = 17.30, p < .001$
 For Academic Learning: $F(1, 71) = 9.86, p < .01$
 For Gains in Problem-solving Skills: $F(1, 77) = 3.94, p = .05$
 For Gains in Leadership Skills: $F(1, 176) = 28.62, p < .001$
 For Satisfaction with the University: $F(1, 159) = 24.38, p < .001$

(2008), which showed that a match was beneficial for students who expressed preferences for Charity, Social Change, or both, but not for students who were not positive about either orientation (a group they called the Low Value Undifferentiated group).

We were able to carry out a partial replication of those findings, comparing the Low Value Undifferentiated group with the other students (combining into a single group all students who preferred Charity, Social Change, and both orientations). Mean outcome scores for Match and No Match groups are shown in Table 7: For the students expressing a positive preference for either orientation, a match between preferences and course characteristics produced significantly higher scores on each outcome measure than was shown in the No Match groups; no such effect was shown in the Low Value Undifferentiated group. Significant interactions for each measure, summarized in Table 7, support this conclusion. Follow-up analyses of mean scores for the Combined Preference group showed that the Match group was significantly higher than No Match for all outcome measures at $p < .05$ or better. For the Low Value Undifferentiated group, the No Match condition yielded significantly higher scores than the Match condition on Gains in Leadership Skills and Satisfaction with the University (p 's $< .01$). For the other three outcome measures, Match and No Match groups did not differ significantly, but being in the Match group was not beneficial for any of the outcomes for the Low Value Undifferentiated group.

A question that arises from these findings concerns the characteristics of the Low Value Undifferentiated group. On a number of variables, including age, ethnicity, high school GPA, degree sought, and career plans, the Low Value Undifferentiated group did not differ from the groups expressing more positive preferences. However, we did find that students in the Low Value Undifferentiated group were somewhat more likely to be male (40% vs. 27%), less likely to be engaged in volunteer service activities, and less positive about the university's public service graduation requirement. Although they did not differ from the other groups in the amount of pre-college community service they reported, they indicated that they had not enjoyed this service as much as the other groups did. On the survey at college entry, the Low Value Undifferentiated group indicated a stronger interest in "fun" activities (making friends, socializing) than did the other students, but they did not differ from others in expressing civic or academic/career interests.

Discussion

Through the reports of students who had completed or were engaged in service-learning courses dur-

ing their first two years in college, we were able to identify course characteristics that were related to positive student outcomes, thereby beginning to address the need described by Novak et al. (2007). With regard to the first research question, the *Value of Service* performed in the community was an important predictor for each outcome. Students who were able to perform well service activities that had a positive impact in the community felt that the service-learning course experience had increased their learning about the community, produced gains in their academic, problem-solving, and leadership skills, and increased their satisfaction with their university. Decisions about service sites made by the course organizers, the efforts of the community agencies to engage students in the work of the agencies, and the impact students see of their efforts are crucial for student learning from the course experience. Focus on Service is important as a predictor of gains in problem-solving and leadership and in satisfaction with college. A well-planned course that integrates course content with service and prepares both agencies and students for the service experience offers students opportunities to engage in problem-solving and decision-making and may lead them to greater satisfaction with their university experience. *Opportunities for Reflection* are important for the outcome variables central to the aims of service-learning: learning about the community and mastering academic content. Course-related reflection usually emphasizes ties between academic content and community characteristics, with some attention as well to personal values and larger social issues (Bringle & Hatcher, 1999), but probably puts less emphasis on problem-solving and leadership skills, for which Reflection was not a significant predictor.

Another aspect of service-learning courses that has not been studied in relation to course quality is the way in which the service-learning experience reflects Morton's charity and social change paradigms. In the regression analyses, course orientation was entered as a third step, after the effects of personal characteristics and course quality indicators were evaluated. For several outcome measures, course orientation made significant contributions to the prediction. Looking more closely at the relationships, it was the presence of social change components in the service-learning course experience that added to each of the predictions. A charity aspect (helping individuals, giving to others) appears to be typical of high quality service-learning courses (as shown by high correlations with course quality indicators), while a social change orientation may or may not be present in such a course. Incorporating a social change orientation adds to the course in meaningful ways, increasing students' learning about the community, gains in academic

learning, leadership, and satisfaction with college. Why might this be the case? A social change perspective may motivate students to ask questions about community needs, their roles in service, and social justice issues they encounter as they take part in the community, thus increasing their knowledge of the community. It may stimulate their interest in course content (especially if it is well-integrated with the service activity) and encourage them to take on leadership roles to change things that they see needing attention. Such experiences should increase students' enjoyment of college and satisfaction with their university. However, there is a possibility that other variables, not controlled in the present study, were important in accounting for these effects: Instructors who emphasize social change in their courses may impact students in other ways, such as by serving as role models for community engagement, modeling excitement and interest in the service activities, and respecting the value of students' work and the ideas they derive from their service experiences. Similarly, course content that emphasizes social change may be particularly interesting and motivating for students, and community agencies involved in social change may offer support or benefits to students that enhance their learning, apart from the social change aspects of the experience. The large number of courses, instructors, and community agencies in the current data set make it likely that there were such contributing factors; unfortunately, we were not able either to evaluate their impacts or control for them in these analyses. Future research could clarify the components of a social change orientation in service-learning courses.

Within our design, it was possible to attempt a partial replication of previous work by Moely et al. (2008) about the importance of the "match" between students' preferences for charity or social change orientations and their actual experiences with service. Because we had a relatively small sample, we were only able to address this question in part. We did not look at what happens to a student preferring charity-oriented service who is placed in a service activity with a social change emphasis, or vice versa. Sample sizes for preference x site groupings were not sufficient to fully replicate the previous work. But we were able to show, as in the earlier work, that a match between preference and service produces more positive outcomes than a mismatch condition for students who had expressed initially a positive preference for either or both orientations.

The idea of a match serving to strengthen outcomes of service experiences originated with Clary and colleagues (1998) in a study of adults engaged in service activities. Findings of Moely et al. (2008) and of the current study support the value of a match. However, Bringle et al. (2006) have suggested that in some

cases, a mismatch between preferences and service experiences might actually increase learning by providing the cognitive dissonance that motivates students toward searches for information and experiences to resolve conflicting perspectives. A possible resolution of our findings with this reasonable alternative may be found in a developmental view of the possible impacts of service-learning. Many of the service-learning courses that contributed data to the present study were low-level, introductory courses and the students themselves were in the early years of college. A "match" experience may be beneficial at this level. As students proceed to learn more about the community through repeated involvement on course work and volunteer activities, and as their cognitions become more complex and differentiated with age and experience (Evans, Forney, Guido, Patton, & Renn, 2010), the possibility of growth through a mismatch becomes more likely. Further research could address the impact of matched and mismatched experiences for students at different ages and levels of college.

Given the findings to date regarding the importance of service preferences, however, we can consider implications for practice. Clearly, it is important that service-learning courses provide students opportunities for meaningful, well-planned service that is integrated with course content and supported by reflection activities. In addition, to address orientation preferences, a service-learning course might be designed to offer several kinds of service options from which students could choose, so that they will not be uncomfortable or frustrated in their service-learning experience. For example, a student who prefers working one-on-one with a community member might find it unsatisfying to analyze data from a community agency survey. On the other hand, a student interested in large impacts on the community might not find fulfillment in tutoring a child.

For students who are not interested in service in general – how can a service-learning course benefit them? Students who were in the Low Value Undifferentiated group did not benefit by a service-learning experience that matched their low valuing of the two orientations. The positive service-learning experience associated with a charity or social change orientation or both orientations was beneficial for several outcomes. Bringle et al. (2006) emphasized the importance of deliberate efforts to move such unmotivated students toward more positive involvement through service-learning experiences that involve relatedness, competency, and autonomy. They suggest that such experiences will maximize the possibility of rewarding experiences that produce intrinsic motivation for community engagement.

There are several limitations of the present study. One is that all of the measures used here were report-

ed by students themselves. Reports could be influenced by extraneous factors that affect views of the service-learning courses and personal outcomes. The significant correlations between measures suggest that there is some tendency for a response bias toward providing all positive or all negative ratings. Future work can use other kinds of measures to assess course characteristics and outcomes. However, we suggest that these be used in conjunction with student reports, which are unique in giving a personal picture of course characteristics and effects. Students may experience courses in unexpected ways and their outcomes are not always those intended or measured by the instructor. Future research could address the extent to which students' descriptions correspond to those derived from sources such as course instructors, community partners, recipients of service, syllabus analysis, or systematic observation. A second limitation of the present study is that only one campus was involved in the research, so that generalizability to different settings is uncertain. However, the data for this study were derived from a large number of service-learning courses, offered in various disciplines, completed by students at different points in time over a period of some five years, and involving a large number of faculty members, each with a unique approach to service-learning, so this very likely is not a major problem.

An implication of these findings is the importance of including some measure of the quality of the service-learning course in any research on service-learning. Such measures could be obtained from students themselves, from instructors or community agency representatives, or from direct observation of courses. Any evaluation of possible service-learning impacts should take into account the extent to which the service-learning course offers a valuable and meaningful service experience to the student, how well service-learning is integrated into the course, and the nature and content of reflection activities, as well as the orientations reflected in course content and service opportunities.

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