

# UNIFORM ASSESSMENT OF THE BENEFITS OF SERVICE LEARNING: THE DEVELOPMENT, EVALUATION, AND IMPLEMENTATION OF THE SELEB SCALE

Mark F. Toncar, Jane S. Reid, David J. Burns, Cynthia E. Anderson, and Hieu P. Nguyen

This research discusses the development, refinement, and evaluation of the Service Learning Benefit (SELEB) scale, a scale that measures student perceptions of service learning experiences. The final scale consists of 12 items representing four underlying dimensions—practical skills, interpersonal skills, citizenship, and personal responsibility. In a three-study investigation, we demonstrate that the SELEB scale is useful for evaluating the quality and effectiveness of service learning initiatives from the perspective of the students involved. The scale can be used to develop specific service learning objectives, to measure how effectively these objectives have been achieved, and to alter project-specific aspects in response to student input.

“Helping others is a national obsession in the United States” (Weis and Gantt 2002, p. 124). Volunteerism has become an essential part of the human resource equation for nonprofit organizations striving to provide cost-effective services to their constituencies. Volunteers can provide tremendous economic benefits to nonprofit organizations, supplementing or complementing the work of a paid staff and helping organizations to hold down costs (Brudney 1990). Increasingly, students are forming a significant portion of the pool of volunteers, in part because of the growth of service learning initiatives integrated into the classroom.

Service learning differs from community service or volunteerism in that the student’s education is at the core—service learning directly connects traditional curriculum with concern for one’s community (Kaye 2004). The incorporation of service learning into the education process has grown at an astounding rate during the past 15 years (Bringle, Phillips, and Hudson 2004). Students are increasingly being called upon to complete service learning projects as a way to not only integrate their classroom activities with real-world experiences but also to make

a difference in their own communities. Service learning programs have become commonplace in American colleges and universities. While definitive summary statistics are not available, it is illustrative to note that over 900 two- and four-year colleges and universities are members of Campus Compact ([www.compact.org/membership/](http://www.compact.org/membership/)), a national organization that promotes community and service learning initiatives. An abundance of research suggests a variety of benefits derived from service learning. To date, however, few systematic empirical attempts have captured the scope of benefits that service learning experiences may provide to students. Moreover, previous research has not adequately addressed student perceptions of the benefits of service learning. This research reports the development and evaluation of the Service Learning Benefit (SELEB) scale, a self-report measure of student perceptions of the benefits of service learning.

## LITERATURE REVIEW

Service learning has a long history in the United States, with its roots traced back to the mid-nineteenth century with the Morrill Act that established Land Grant institutions throughout the United States. John Dewey and William James began developing the intellectual foundations for

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**Mark F. Toncar** (Ph.D., Kent State University), Associate Professor of Marketing, Williamson College of Business Administration, Youngstown State University, Youngstown, OH, [mftoncar@ysu.edu](mailto:mftoncar@ysu.edu).

**Jane S. Reid** (Ph.D., University of Pittsburgh), Professor of Marketing, Williamson College of Business Administration, Youngstown State University, Youngstown, OH, [jmreid@ysu.edu](mailto:jmreid@ysu.edu).

**David J. Burns** (DBA, Kent State University), Associate Professor of Marketing, Williams College of Business, Xavier University, Cincinnati, OH, [burnsd@xavier.edu](mailto:burnsd@xavier.edu).

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**Cynthia E. Anderson** (Ed.D., University of Akron), Professor of Marketing and Vice President of Student Affairs, Youngstown State University, Youngstown, OH, [ceanderson@ysu.edu](mailto:ceanderson@ysu.edu).

**Hieu P. Nguyen** (Ph.D., University of Texas at Arlington), Visiting Professor, Marketing Department, College of Business Administration, University of Texas at Arlington, [hpnguyen@uta.edu](mailto:hpnguyen@uta.edu).

service learning in the early twentieth century (Titlebaum et al. 2004). The origins of service learning have been closely associated with a variety of government initiatives. Widespread government involvement in service learning probably began in response to James's essay, "The Moral Equivalent of War," in which he envisioned nonmilitary, government-sponsored, service work (1911). Examples of government-initiated service learning can be found in depression-era projects such as the Civilian Conservation Corps and the Work Projects Administration. While the primary objective of these projects was to provide jobs for the unemployed, these jobs focused primarily on public projects, such as developing and restoring the nation's public parks. The GI Bill of 1944, the establishment of the Peace Corps in 1961, and the Youth Conservation Corps in 1970 are just a few examples of other government initiatives in support of learning through service.

More recently, service learning has been introduced into the nation's classrooms, at both K-12 and postsecondary levels. In this context, service learning can be defined as a credit-bearing educational experience in which students participate in an organized service activity that meets community needs and then reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility (Bringle and Hatcher 1996). More concisely, service learning is a process whereby students participate in course-relevant community service to enhance their learning experiences (Petkus 2000).

These definitions offer substantial latitude, resulting in a wide variety of experiential learning activities being labeled as "service learning," particularly at the university level (Hefferman 2001). Among these are internships with community service organizations, class projects conducted with community service agencies, and consciousness-raising volunteerism for course credit. The variety of service learning activities has made the assessment of their effectiveness problematic, because each student involved may have a unique experience. One student's experience as a volunteer at an urban soup kitchen may be quite different than another student's experience developing a marketing plan for a local day care center, or another student's overseas internship with a community service organization. Service learning can be many different things, some intrinsically more interesting, thought provoking, and rewarding than others.

### **The Consequences of Service Learning**

There seems to be little debate with regard to whether service learning is beneficial in higher education. In an

extensive review of recent service learning research, Eyler et al. (2001) identified 135 published and unpublished studies on the topic between 1993 and 2000. Of these, 132 reported favorable or neutral consequences of service learning on students, faculty, colleges and universities, or communities.

Service learning has been shown to produce beneficial consequences for college students; being linked to increased grade point average, retention, degree completion, graduate degree aspiration, civic responsibility, and life skills (interpersonal, leadership ability, social self-confidence, critical thinking skills, conflict resolution skill, and understanding national and community problems) (Astin and Sax 1998). In addition, students report greater satisfaction with service learning courses, the instructor, reading assignments, and grades (Berson and Younkin 1998). Students involved in service learning strongly support the notion of service learning in college, believing that it strengthens understanding and aids intellectual and emotional growth (Blackwell 1996). Eyler and Giles (1999) report that service learning leads to increased personal development, social responsibility, interpersonal skills, tolerance, learning, and application of learning. In addition, these same authors note the impact of the quality of the service learning program. Sax (2004) also found that service learning has a positive impact on civic responsibility, including serving the community, helping others in difficulty, cleaning up the environment, influencing social values, and influencing the political structure. Finally, Batchelder and Root (1994) report that service learning has been shown to positively affect complexity of thinking.

The placement quality, the strength of linkage between academic and service components, and the degree of written and oral reflection influence the effectiveness of service learning. This observation is echoed by Ikeda (2000), who reports that structured intentional reflection is a key component of the service learning process. Similarly, Mabry (1998) suggests that student attitudes and values are affected by the type of contact they have in service learning and the frequency and types of reflection required.

Other research has examined the effects of service learning on other constituents, including the college or university, faculty, and sponsoring agencies. Driscoll et al. (1996) report that students, faculty, and community agencies are all favorably affected by service learning. Students increased their awareness and involvement in the community and enhanced their personal development, academic achievement, and sensitivity to diversity. Agencies reported an increased capacity to serve clients as well as economic and social benefits. For faculty, involvement in service

**Table 1**  
**Examples of Methods and Measures in Previous Research**

Researchers	Sample Size	Research Method	Dependent Measures
Astin and Sax (1998)	3,450	Self-report, institutional records	Civic responsibility, educational attainment, life skills
Berson and Younkin (1998)	286	Self-report, grades, course evaluation, personal interview	Grades, satisfaction, attitudes, faculty expectation
Boyle-Baise and Kilbane (2000)	24	Interviews, essays, self-report, observation	Themes that emerged
Driscoll et al. (1996)	4 classes	Self-report, interview, focus groups, document analysis	Varied by sample type
Ikeda (2000)	15 faculty, 72 students	Interviews, focus groups	Themes that emerged
Mabry (1998)	144	Self-report	Civic attitudes, personal social values

learning offered increased research opportunities as well as demonstrated civic engagement.

The studies reported above used different dependent measures and operationalized service learning outcomes in many different ways (examples of these are summarized in Table 1). These differences have made comparisons across studies difficult, raised questions regarding the validity of the results, and caused some skepticism and resistance to service learning initiatives. Skeptics argue that it is difficult to believe that a relatively modest experience can have the profound effects claimed by its supporters. Furthermore, opponents argue that service learning places inordinate demands on faculty members' time and that the time spent performing service learning would be better spent on traditional academic pursuits (Gray et al. 2000).

A comprehensive assessment of the value of service learning was provided by Gray et al. (2000), who conducted an in-depth evaluation of Learn and Serve America, Higher Education (LSAHE; [www.learnandserve.org](http://www.learnandserve.org)). LSAHE is a national, service-grant program that supports service learning across the country. Gray and colleagues surveyed students, community organization staff, and school program directors over a three-year period. This information was supplemented by site visits to over 30 LSAHE programs. Because LSAHE grants are awarded competitively, Gray et al.'s study likely includes the "best of the best," a profile of service learning in the most committed and involved institutions. To briefly summarize Gray et al.'s findings:

1. Student satisfaction was higher with service learning courses, even though there was no evidence of lenient grading in these courses.

2. While students in service learning classes reported improvements in life skills and expected future community involvement, they did not believe that either their academic skills or career preparation were increased through service learning.
3. Not all service learning courses are created equal. Courses that apply constructs to students' service experience are notably stronger, as are those that discuss service in class.
4. Overall, service learning does no harm to students and may bring modest benefits.

Without question, service learning as a pedagogical tool is more widespread than in the past. This popularity is evident in the relatively recent inclusion of service learning in business school curricula. One reason for the increased use of service learning in business classes may be the perceived disconnect between the abstract and theoretical bias of business schools and the dynamic and practical business environment (Angelidis, Tomic, and Ibrahim 2004). Service learning has been effectively used in courses in accounting (Gujarathi and McQuade 2002), statistics (Root and Thorne 2001), public relations (Patterson 2004), and marketing (Easterling and Rudell 1997; Petkus 2000). Easterling and Rudell (1997) suggest that of all of the business disciplines, marketing may be best suited to the incorporation of service learning opportunities. Indeed, because students are taught that successful organizations will "find the needs and fill them," service learning often provides marketing students with the opportunities to do just that (Rudell 1996, p. 12). Furthermore, through the well-established area of social marketing, the applicability of marketing to nonbusiness

applications (e.g., nonprofit organizations, governmental operations, or causes) has long been recognized (e.g., Andreasen 1994). Finally, Rudell (1996) suggests that service learning opportunities often help students gain experience with intangible products—an important experience in today's service economy. Notably, marketing courses are thought to be among the most appropriate among the business disciplines for experiential learning activities, such as service learning (Easterling and Rudell 1997). Petkus (2000) provides a useful blueprint for the implementation of service learning in a variety of marketing courses, suggesting that a service learning component is appropriate for courses ranging from basic marketing to consumer behavior to marketing research.

Although a wide variety of experiences fall under the rubric of service learning, the favorable outcomes of service learning can be divided into those that impact the personal development and those that impact the professional or practical skills development of students. It also seems clear that, given their variability, even favorable service learning experiences may differ in the degree to which they impact these two skill areas. To date, however, researchers have not addressed these outcomes in a systematic fashion, nor have they developed consistent tools to assess them. Rama et al. (2000), in a comprehensive discussion of service learning outcomes, pointed out a number of weaknesses in previous studies regarding the measurement of service learning outcomes and concluded that additional research is needed to clarify student outcomes, as well as measures of these outcomes. This clarification is necessary for faculty who design service learning activities and for researchers who seek to identify appropriate service learning outcome measures.

With regard to outcome measures, Rama et al. (2000) suggest that content analyses offer promise as a measure of both skill-oriented and personal outcomes. We concur. Content analysis can be a powerful analysis tool, offering deep insights and rich data. However, content analyses are difficult to compare across studies and are inherently subjective in nature. These characteristics limit their usefulness as an objective outcomes assessment tool. The same authors also embrace the use of surveys and standardized testing measures. These measures are not without limitations as well—notably, the lack of established, validated scales.

Gelmon et al. (2001) stress the need to assess service learning from the viewpoint of the student, because service learning is, first, a pedagogical tool. Specifically, what are students' perceptions of the benefits of service learning? Although service learning has the potential to aid community service organizations and to contribute to society's

well-being, the primary objective of service learning is to add to students' educational experiences and to ultimately increase the effectiveness and the value of their education. Vander Veen (2002) reports that the results of student evaluations and alumni surveys indicate that students desire opportunities to bridge the gap between theory and practice such as that provided by service learning activities. Students' perceptions of the value of service learning to their educational process and, specifically, the identification of the specific benefits and their measurement, therefore, appears to be an important area of research. Gelmon et al. (2001), however, observe that no effective instruments presently exist to measure students' perceptions of the benefits of service learning. They do present an example of a possible instrument—the example, however, is merely an example that the authors did not attempt to validate or implement.

It should be noted that several have attempted to develop scales to assess some of the effects of service learning. Four are briefly summarized below.

1. The scale of service learning and involvement (Olney and Grande 1995). Building upon the work of Delve, Mintz, and Steward (1990), this scale was designed to measure the development of students' sense of social responsibility through three broad categories. The categories—exploration/clarification, realization, and activation/internalization—represent progressively more responsible stages of development.
2. The community service self-efficacy scale (Reeb et al. 1998). This scale was constructed to measure individuals' confidence in their ability to make significant contributions to the community through service.
3. Eyler, Giles, and Braxton (1999) developed a questionnaire to obtain students' self-assessments of characteristics that might be affected by service learning. These included citizenship skills, citizenship confidence, and social justice perceptions.
4. The civic attitudes and skills questionnaire (Moely et al. 2002). This scale was designed to measure attitudes, skills, and behavioral intentions that might be affected by service learning participation. Specifically, the scale measured skills useful in civic endeavors, values related to civic engagement, and the likelihood of action and involvement in community issues.

Each of these scales represents an attempt to objectively assess some aspect of the service learning experience.

However, each scale addresses very limited aspects of the benefits of the service learning domain. The scale of service learning and involvement (Olney and Grande 1995), for instance, examines only development of social responsibility, whereas the civic attitudes and skills questionnaire (Moely et al. 2002) and the scale of Eyler, Giles, and Braxton (1999) examine only issues related to civic responsibility. Finally, the community service self-efficacy scale (Reeb et al. 1998) examines only students' confidence in their ability to make significant contributions. None of the scales are able to provide a clear examination of students' assessment of the range of benefits they perceive from service learning. This research can be considered another step toward the development of a well-validated, inclusive, and reliable measure of student perceptions of the outcomes of service learning.

### STUDY 1: THE DEVELOPMENT OF THE SELEB SCALE

Our purpose is to develop and evaluate a scale that captures and accurately measure the benefits, from the students' perspective, of service learning. Specifically, we attempt to identify outcomes of service learning that are consistent across a variety of service learning activities, and to measure how these outcomes might vary among different service learning activities. The process suggested by Churchill (1979) served as the basis for developing the SELEB scale.

The development of the SELEB scale began by specifying the domain of the construct, beginning with the recognition that students are likely to perceive a wide range of potential benefits to service learning. This assumption is reflected in prior literature that used a wide variety of dependent measures to assess the effects of service learning. In an effort to identify the array of possible benefits, a literature review was conducted by the authors with an eye toward discovering the specific benefits reported in prior studies. An important source for our literature review was Eyler et al. (2001), which provided an excellent, annotated bibliography summarizing the effects of service learning culled from 135 previous recent studies. This source provided us with a wide range of reported benefits. This information was supplemented by the review of additional research reported above.

The resulting benefit domain can be summarized into six nonmutually exclusive categories—civic responsibility, interpersonal skills, leadership ability, critical thinking, ability to apply knowledge, and general life skills. Based upon our review and discussions among the authors, a list of 27 items was generated that seemed to capture the range of benefits reported in prior literature and in our

**Table 2**  
**Original 27 Items Generated for the SELEB Scale**

Benefit	Category*
Spiritual Growth	5
Personal Growth	5
Ability to Work Well with Others	3
Leadership Skills	3
Communication Skills	2
Understanding Cultural and Racial Differences	2
Social Responsibility and Citizenship Skills	1
Community Involvement	1
Applying Knowledge to the "Real World"	4
Problem Analysis and Critical Thinking	6
Professional Relationships with Faculty	5
Social Self-Confidence	2
Conflict Resolution	5
Ability to Assume Personal Responsibility	5
Developing Caring Relationships	2
Service to People in Need	1
Being Trusted by Others	3
Empathy and Sensitivity to the Plight of Others	2
Development of Workplace Skills (punctuality, taking direction)	5
Having a Stronger Voice in the Classroom	5
Ability to Make a Difference in the Community	1
Skills in Learning from Experience	5
Ability to Relate to People from a Wide Range of Backgrounds	3
Organizational Skills	5
Social Action Skills	4
Bolster Resume	5
Connecting Theory and Practice	4

\* Benefit categories: 1 = civic responsibility, 2 = interpersonal skills, 3 = leadership ability, 4 = ability to apply knowledge, 5 = general life skills, 6 = critical thinking.

own experience. The original 27 items appear in Table 2. The items are labeled to correspond to the hypothesized benefit categories. (Because the benefit categories are not mutually exclusive, however, several of the items can arguably correspond to more than one category.) To purify the measure, a questionnaire was developed that included, among other items, the scale comprised of the 27 items. Student respondents were asked to indicate how important each of the 27 items was to their educational experience, using a seven-point scale anchored by "not at all important" and "very important." The additional items, included to prevent respondents from guessing the purpose of the research, included a volunteerism scale, an altruism scale, and an empathy scale. Some demographic information, such as age, gender, and class rank, was collected as well. The questionnaire contained 139 questions in all.

Students in two marketing research classes collected the data as part of their course requirements. Each student

**Table 3**  
**Final Rotated Factor Matrix for SELEB Scale**

	Factor			
	1	2	3	4
Personal Growth	0.318	<b>0.549</b>	0.185	0.303
Ability to Work Well with Others	0.260	<b>0.694</b>	0.271	0.308
Leadership Skills	0.381	<b>0.682</b>	0.211	0.075
Communication Skills	0.351	<b>0.682</b>	0.161	0.164
Understanding Cultural and Racial Differences	0.144	0.400	<b>0.605</b>	0.315
Social Responsibility and Citizenship Skills	0.182	0.410	<b>0.672</b>	0.247
Community Involvement	0.214	0.135	<b>0.735</b>	0.147
Applying Knowledge to the "Real World"	<b>0.652</b>	0.264	0.155	0.199
Problem Analysis and Critical Thinking	<b>0.636</b>	0.282	0.149	0.098
Social Self-Confidence	<b>0.509</b>	0.344	0.174	0.264
Conflict Resolution	<b>0.596</b>	0.186	0.201	0.357
Ability to Assume Personal Responsibility	<b>0.554</b>	0.240	0.076	0.506
Caring Relationships	0.185	0.163	0.295	<b>0.661</b>
Being Trusted by Others	0.239	0.369	0.115	<b>0.630</b>
Empathy and Sensitivity to the Plight of Others	0.226	0.112	0.419	<b>0.643</b>
Workplace Skills	<b>0.523</b>	0.302	0.106	0.294
Ability to Make a Difference in the Community	0.317	0.088	<b>0.623</b>	0.218
Skills in Learning from Experience	<b>0.667</b>	0.179	0.293	0.181
Organizational Skills	<b>0.550</b>	0.365	0.191	0.258
Connecting Theory with Practice	<b>0.556</b>	0.180	0.250	0.068

Boldface signifies the factor with which each item was most strongly correlated.

was required to obtain 10–20 completed questionnaires. Students were given specific guidelines regarding the characteristics of students who were to be included in the sample so as to ensure that the sample contained similar numbers of men and women as well as students from all of the various colleges in the university. Students who agreed to complete the survey did so on their own while the research student waited. Each student researcher kept a log including the name and either the telephone number or e-mail address of each student who completed the questionnaire. The authors randomly selected names from these lists to validate the survey to ensure that the questionnaire had, in fact, been completed by the named student.

Four hundred eighty-five students completed the questionnaires. Quota samples were used at a state university to generate a sample of students from six different academic disciplines (colleges). The sample included 245 males and 240 females, ranging in age from 17 to 57, with 73 from arts and sciences, 150 from business, 62 from education, 59 from engineering, 68 from fine and performing arts, and 73 from health and human services.

The results were factor analyzed using a generalized least squares method with varimax rotation. Using the la-

tent root criterion, where factors with eigenvalues greater than one are considered significant, the analysis yielded a four-factor solution, with 26 of the 27 variables loading significantly on at least one factor. The "spiritual growth" item did not load significantly on any factor. This item was therefore discarded, and the factor analysis was repeated. The resulting four-factor solution explained 56 percent of variance in the data, with all factor loadings exceeding 0.40, and 20 of the 26 factor loadings exceeding 0.50. Because factor loadings exceeding 0.50 suggest that in a practical sense, the factor loadings are significant (Hair et al. 1998), and in an attempt to make the scale as parsimonious as possible, we repeated the factor analysis after deleting all scale items with a factor loading of less than 0.50. The resulting solution retained 20 scale items with factor loadings greater than 0.50, loading on the previous four factors and explaining over 65 percent of the variance in the data. The rotated factor matrix appears in Table 3.

We then repeated the factor analysis using two random samples, each containing approximately 50 percent of the subjects in the overall sample. We compared the factor solutions, amount of variance explained, and factor loadings of these samples with that of our overall sample. Both samples

**Table 4**  
**Fifty Percent Random Sample Validation Results of the SELEB Scale**

	Factor							
	1		2		3		4	
	Random Sample							
	1	2	1	2	1	2	1	2
Personal Growth	0.296	0.309	<b>0.595</b>	<b>0.652</b>	0.191	0.108	0.272	0.332
Ability to Work Well with Others	0.299	0.299	<b>0.684</b>	<b>0.716</b>	0.265	0.324	0.304	0.259
Leadership Skills	0.334	0.435	<b>0.632</b>	<b>0.593</b>	0.238	0.345	0.137	0.034
Communication Skills	0.327	0.400	<b>0.667</b>	<b>0.695</b>	0.127	0.224	0.165	0.105
Understanding Cultural and Racial Differences	0.205	0.134	0.350	0.435	<b>0.632</b>	<b>0.556</b>	0.277	0.362
Social Responsibility and Citizenship Skills	0.183	0.240	0.400	0.316	<b>0.741</b>	<b>0.737</b>	0.167	0.228
Community Involvement	0.200	0.186	0.107	0.104	<b>0.696</b>	<b>0.714</b>	0.135	0.183
Applying Knowledge to the "Real World"	<b>0.660</b>	<b>0.600</b>	0.282	0.308	0.208	0.127	0.131	0.169
Problem Analysis and Critical Thinking	<b>0.628</b>	<b>0.663</b>	0.357	0.303	0.140	0.142	0.113	0.117
Social Self-Confidence	<b>0.567</b>	<b>0.601</b>	0.255	0.279	0.178	0.257	0.324	0.128
Conflict Resolution	<b>0.594</b>	<b>0.630</b>	0.230	0.151	0.213	0.279	0.340	0.236
Ability to Assume Personal Responsibility	<b>0.555</b>	<b>0.536</b>	0.271	0.258	0.166	0.117	0.421	0.446
Caring Relationships	0.160	0.147	0.180	0.222	0.339	0.317	<b>0.642</b>	<b>0.668</b>
Being Trusted by Others	0.249	0.364	0.405	0.400	0.059	0.115	<b>0.723</b>	<b>0.523</b>
Empathy and Sensitivity to the Plight of Others	0.287	0.236	0.126	0.063	0.414	0.311	<b>0.628</b>	<b>0.782</b>
Workplace Skills	<b>0.540</b>	<b>0.545</b>	0.300	0.291	0.076	0.125	0.296	0.271
Ability to Make a Difference in the Community	0.343	0.264	0.081	0.186	<b>0.554</b>	<b>0.558</b>	0.268	0.282
Skills in Learning from Experience	<b>0.658</b>	<b>0.679</b>	0.236	0.168	0.299	0.152	0.149	0.206
Organizational Skills	<b>0.575</b>	<b>0.623</b>	0.344	0.341	0.242	0.176	0.171	0.255
Connecting Theory with Practice	<b>0.584</b>	<b>0.596</b>	0.171	0.147	0.212	0.259	0.146	0.083
Explained Variance (percent)	58.85	60.07						

Boldface signifies the factor with which each item was most strongly correlated.

yielded results that were essentially identical to the overall sample. The factor loadings and variance explained for the two samples are summarized in Table 4.

Finally, Cronbach's alpha was used to assess the reliability of each of the scale factors. The coefficient alphas for each of the scale factors are as follows: Factor 1 = 0.90; Factor 2 = 0.86; Factor 3 = 0.84; and Factor 4 = 0.79. The reliabilities for each of the scale factors appear to be satisfactory given the generally agreed upon lower limit of Cronbach's alpha of 0.70 (Hair et al. 1998). An inspection of the distribution of variables related to each factor suggests that two of the factors are skill-oriented factors, while two appear to be social or personal factors. Table 5 summarizes the variables and their associated factors. Nine of the 20 variables loaded significantly on Factor 1, which we have named "practical skills"; four variables loaded on Factor 2, "interpersonal skills"; four variables loaded on Factor 3, "citizenship"; and the remaining three variables loaded on Factor 4, "personal responsibility." Clearly, two factors (Factors 1 and 2)

represent skill-related benefits while two (Factors 3 and 4) represent benefits of a more personal, nonacademic nature. Consistent with our literature review, the scale captures both practical and personal service learning benefits. The 20-item SELEB scale is shown in Appendix A.

The resulting factors possessed some, but not total, relation to the original hypothesized structure based on the domain of the construct. This is not surprising given the nonmutually exclusive nature of the a priori benefit categories. The first factor (practical skills) contained a predominance of items from the "general life skills" category and the "ability to apply knowledge" category and contained the only "critical skills" item. The second factor (interpersonal skills) contained a predominance of items from the "leadership" category. The third factor (citizenship) contained primarily items from the "civic responsibility" category. Finally, the fourth factor (personal responsibility) contained items from the "interpersonal skills" category and one from the "leadership" category. Overall, the result-

**Table 5**  
**Factors and Associated Variables of the SELEB Scale**

<b>Practical Skills</b>	<b>Interpersonal Skills</b>	<b>Citizenship</b>	<b>Personal Responsibility</b>
Applying Knowledge to the "Real World"	Personal growth	Understanding cultural and racial differences	Caring relationships
Problem Analysis and Critical Thinking	Ability to work well with others	Social responsibility and citizenship skills	Being trusted by others
Social Self-Confidence	Leadership skills	Community involvement	Empathy and sensitivity to the plight of others
Conflict Resolution			
Ability to Assume Personal Responsibility	Communications skills	Ability to make a difference in the community	
Workplace Skills			
Skills in Learning from Experience			
Organizational Skills			
Connecting Theory with Practice			

ing factors relate surprisingly well to the a priori categories given the similarity of the categories, with the initial factor accounting for several of the categories.

It is interesting to note that with the exception of the "practical skills" dimension, which is represented by nine of the 20 scale items, the scale is well balanced, with each dimension represented by three or four scale items. In retrospect, the breadth of the "practical skills" dimension is not surprising, and may reflect the wide range of skills that students recognize as both desirable to have and obtainable through service learning.

## **STUDY 2: VALIDATING THE SELEB SCALE**

It seems clear that the SELEB scale has face validity. It appears to measure what it was intended to measure. In addition, we believe that the scale demonstrates content validity as well. Our methodology explicitly focused on capturing the totality of the construct. Our literature review identified a wide variety of potential benefits of service learning, which formed the basis for the scale items that ultimately came to represent the four dimensions of the SELEB scale. These dimensions represent the benefits of service learning. The purpose of Study 2 is to examine the convergent, discriminant, and nomological validities of the scale items that emerged from Study 1. We followed the procedure suggested by Gerbing and Anderson (1988) in pursuing this goal.

## **Sample**

Two hundred and nine undergraduate business students from a large southwestern university participated in the study for course credit. One subject did not fill out all of the items on the scale, resulting in a usable pool of 208 subjects, ranging in age from 19 to 46. Fifty-four percent of the subjects were female and 46 percent were male. Caucasians accounted for 68 percent of the sample; African Americans, 11 percent; Hispanics, 14 percent; Asians, 5 percent; and others, 2 percent. Gender and age did not have any significant effects on the responses and were not further analyzed.

## **Measurement Model**

The SELEB measurement model was assessed using several steps: item purification, assessment of unidimensionality, convergent and discriminant validity, and the scale reliability. Study 1 found a battery of 20 items representing four dimensions: practical skills (nine items), interpersonal skills (four items), citizenship (four items), and personal responsibility (three items). In Study 2, subjects were asked to indicate their agreements with these 20 items (1 = not at all; 7 = very much so). A confirmatory factor analysis (CFA) found an almost identical factor structure except that several items were dropped due to significant loadings on at least two factors, resulting in a total of 15 items remaining on the scale (see Table 6). The four factors accounted for

**Table 6**  
**Factor Loadings—15 items**

Item	Practical Skills (ps)	Citizenship (c)	Personal Responsibility (pr)	Interpersonal Skills (ip)
Applying Knowledge to the "Real World" (ps1)	0.658			
Problem Analysis and Critical Thinking (ps2)	0.822			
Workplace Skills (ps3)	0.652			
Organizational Skills (ps4)	0.634			
Connecting Theory with Practice (ps5)	0.718			
Understanding Cultural and Racial Differences (c1)		0.725		
Social Responsibility and Citizenship Skills (c2)		0.815		
Community Involvement (c3)		0.807		
Ability to Make a Difference in the Community (c4)		0.704		
Social Self-Confidence (pr1)			0.713	
Ability to Assume Personal Responsibility (pr2)			0.702	
Being Trusted by Others (pr3)			0.738	
Ability to Work Well with Others (ip1)				0.680
Leadership Skills (ip2)				0.738
Communication Skills (ip3)				0.675

68.5 percent of the total variance. Prior to conducting the CFA, multivariate normality was assessed using the PRELIS procedure. Several items were found to be nonnormal but, due to the large sample size ( $n > 100$ ), the assumption of multivariate normality could be relaxed (Steenkamp and van Trijp 1991).

### Item Purification

In order to purify the 15 scale items, a CFA was run with LISREL 8.54 using the maximum likelihood estimation (MLE) procedure, because Steenkamp and van Trijp (1991) argued that MLE parameter estimates are robust against moderate violations of the assumption of multivariate normality if the sample size is larger than 100. In assessing the standardized residuals, three items were dropped because they consistently showed large standardized residuals (exceeding the cutoff point of  $\pm 2.58$  suggested by Hair et al. 1998) with items on other dimensions without any specific pattern, implying a need for respecification. All of the 12 remaining items on the scale met most of the standard fit requirements for acceptable model fit (goodness-of-fit index [GFI] = 0.92, adjusted goodness-of-fit index [AGFI] = 0.87, confirmatory fit index [CFI] = 0.98, normed fit index [NFI] = 0.97, root mean square error of approximation [RMSEA] = 0.077). The chi-squared was significant ( $\chi^2(48) = 106.19, p < 0.005$ ), however, this was expected due to the large sample size (Marsh, Balla, and McDonald 1988).

### Construct Validation

To test the validity and reliability of the scale, Gerbing and Anderson's (1988) procedure was followed. We first assessed the unidimensionality of the scale items, then convergent and discriminant validities were investigated, and, finally, the scale items' reliabilities were evaluated.

By definition, unidimensionality refers to the existence of a single trait or construct underlying a set of measures (Hattie 1985). To assess unidimensionality, the standardized residuals and overall model fit were investigated. The resultant measurement model represents a relatively good fit with most of the fit indices satisfying the criteria for acceptable model fit as discussed above. The standardized residuals did not show any need for respecification, and, therefore, sufficient unidimensionality was assumed.

The next step in the construct validation process was to assess convergent validity. As suggested by Hair et al. (1998), we investigated factor loadings as indicative of convergent validity among the scale items. All of the remaining 12 items on the scale exceeded the significant loading requirement of 0.4, ranging from 0.69 to 0.91 (see Table 6). We therefore concluded that the scale items had convergent validity.

Next, the discriminant validity of the scale items was evaluated using the average variance extracted (AVE) procedure (Dillon and Goldstein 1984). According to Hair et al. (1998), the variance extracted should exceed 0.50 for a construct. Table 7 indicates that all of the dimensions met

**Table 7**  
**Summary of Statistics and Measurement Results**

Constructs and Items	Mean	Standard Deviation	$\lambda$ (t-value)	AVE	Cronbach's $\alpha$
Practical Skills (ps)				0.59	0.78
ps1	6.28	1.04	0.69		
ps3	6.06	1.15	0.77		
			(9.89)		
ps4	5.87	1.20	0.83		
			(10.44)		
Citizenship (c)				0.65	0.80
c1	5.60	1.44	0.78		
c2	5.56	1.33	0.91		
			(12.62)		
c4	5.44	1.41	0.70		
			(10.19)		
Personal Responsibility (pr)				0.64	0.84
pr1	5.74	1.29	0.79		
pr2	5.80	1.28	0.86		
			(13.32)		
pr3	5.64	1.33	0.82		
			(12.64)		
Interpersonal Skills (ip)				0.68	0.79
ip1	5.97	1.10	0.71		
ip2	6.15	1.10	0.88		
			(11.66)		
ip3	6.22	1.08	0.82		
			(11.00)		
Advocacy (advoc)				0.88	0.94
advoc1	5.14	1.45	0.96		
advoc2	4.93	1.41	0.97		
			(34.22)		
advoc3	5.14	1.50	0.88		
			(23.01)		

The items in parentheses indicate the order on their respective dimensions.

this requirement as well as the square structural links between these dimensions ( $\phi$ , in LISREL). Therefore, it was concluded that there was evidence of discriminant validity among the four dimensions of the scale.

Finally, coefficient alpha was used to assess the reliability of the scale. Even though it has been widely suggested that a Cronbach's alpha of 0.75 is the cutoff point for demonstration of reliability, Hair et al. (1998) suggest that a threshold value of 0.70 indicates acceptable reliability and values below 0.70 are acceptable if the research is exploratory in nature. As shown in Table 7, the Cronbach's alpha of each of the four dimensions exceeds 0.70, ranging from 0.78 to 0.84, indicating that the SELEB scale was reliable.

### Advocacy

According to the theory of reasoned action (Ajzen 1991), attitudinal constructs are direct determinants of behavioral intentions. If a person holds a positive view or perception

of some activity, it is reasonable to believe that the person will engage in that activity when the opportunity presents itself or he or she will encourage other people to do it for the benefits perceived. In this study, we hypothesized that the nomological construct "advocacy" (a behavioral intention) is positively related to the "perception" of service learning benefits, an attitudinal construct (higher perceptions of the benefits of service learning should lead to a higher probability of advocating service learning activities to others).

Factor loadings of the three items on the "advocacy" dimension indicated convergent validity of the construct (Table 7), and the items explained 89.2 percent of the total variance. Cronbach's alpha was 0.94, indicating that the construct is reliable. Advocacy's AVE was 0.88, indicating the construct has discriminant validity.

### Structural Model

The nomological validity of the perception of service learning benefits construct (PSL) was tested by assessing

**Table 8**  
**Structural Results**

Second-Order Factor Loadings	Hypothesis	Estimate	t-Value
Perception of Service Learning → Practical Skills*	H1a	1.23	9.93
Perception of Service Learning → Citizenship*	H1b	2.32	6.33
Perception of Service Learning → Personal Responsibility*	H1c	3.27	10.96
Perception of Service Learning → Interpersonal Skills*	H1d	2.18	10.30
<b>Second-Order Structural Estimates</b>			
Perception of Service Learning → Advocacy*	H2	0.91	5.23

\* Significant at  $p < 0.005$ .

the structural relationship between perception of service learning as a higher-order construct (which consists of the four dimensions discussed above) and the nomological construct "advocacy." We want to find out whether perception of service learning benefits could predict advocacy behavior. We propose the following hypotheses:

*Hypothesis 1: Perception of service learning benefits is a higher-order construct that represents (a) practical skills, (b) citizenship, (c) personal responsibility, and (d) interpersonal skills.*

*Hypothesis 2: Perception of service learning benefits, constructed as a second-order construct, positively influences advocacy.*

Results reported in Table 8 indicate that the links between the four dimensions (practical skills, citizenship, personal responsibility, and interpersonal skills) and perception of service learning were significant at the  $\alpha = 0.05$  level (all  $t$ s exceeded 1.96,  $p < 0.005$ ), providing evidence to support H1. We also found that "perception" of service learning was a significant predictor of "advocacy" at the  $\alpha = 0.05$  level ( $t = 5.23$ ,  $p < 0.005$ ), lending evidence to support H2. A review of the fit indices suggests that the structural model fits the data well. The chi-squared was significant ( $\chi^2(82) = 177.34$ ,  $p < 0.005$ ), predictably due to large sample size, but other indices (GFI = 0.90, AGFI = 0.85, CFI = 0.98, NFI = 0.96, RMSEA = 0.075) indicate a good fit between the data and the model estimated. A summary of the structural model is presented in Figure 1, and the final 12-item SELEB scale appears in Appendix B.

Having developed the SELEB scale and provided evidence that it is both a reliable and a valid measurement instrument, we now report the results of Study 3, a practical application of the scale. In Study 3, the 12-item SELEB scale is used to capture differences in the service learning experiences of two college-level marketing classes.

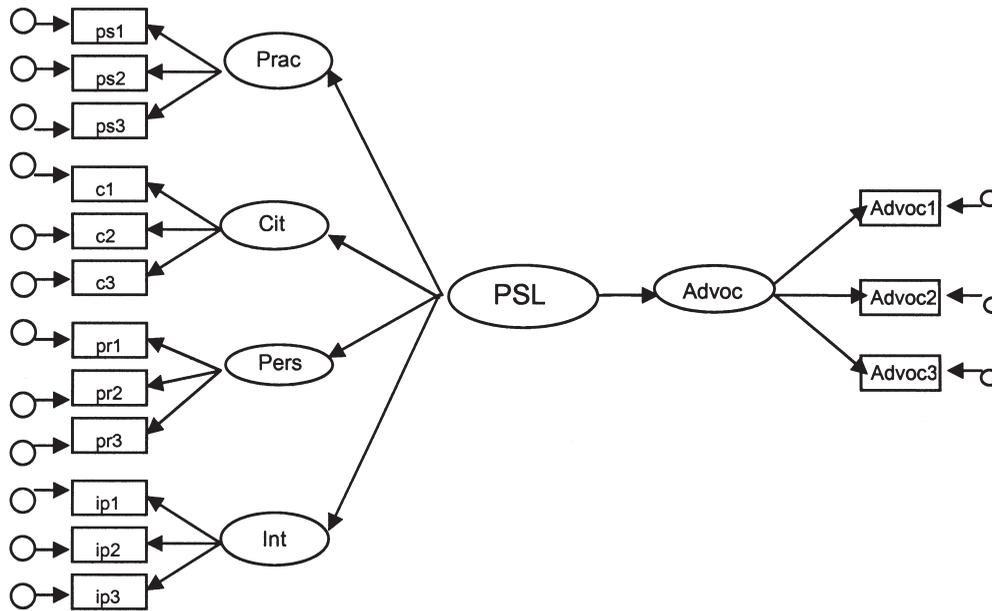
### STUDY 3: PRACTICAL APPLICATION OF THE SELEB SCALE

In an effort to provide an additional test of overall validity, the SELEB scale was examined for criterion-related validity in this study. This evaluation is based on the assumption that a scale that purports to measure the benefits of service learning should yield different results when administered to students who had very different service learning experiences, and, presumably, derived different benefits.

Two classes, a senior-level marketing research class and a junior-level basic public relations class, were offered during the same six-week summer term. Both classes were taught by the same faculty member in the same manner. Although they were taught in the same manner, the courses were different in important ways. The course content was quite different. The marketing research class, as is typical in many schools, is somewhat quantitative and requires substantial statistical analysis. In this particular class, students worked with a local Girl Scout Council and were required to develop hypotheses, administer telephone surveys, enter the data, and use statistical software to analyze the data and to perform and interpret several specific statistical tests. The course is considered difficult and generally is not popular among marketing students, so it is often put off until a student's final semester. In short, it is not considered a "fun" class.

In contrast, the public relations class was not quantitative and included a service learning project that was arguably more "fun." Students in the class were required to stage a fund-raising event for the local United Way during (evening) class time in the fifth week of the six-week semester. The class was given the day and time of the event and was then required to develop and complete a fund-raising event. Ultimately, the class staged a successful fund-raiser at a local miniature golf and "fun spot," complete with a dunk tank (featuring the dean of the college of business

**Figure 1**  
**Perception of Service Learning Benefits Model**



and the vice president for student affairs), a raffle, and an auction. Over \$1,400 was raised for the local United Way by the students.

Near the end of the term, the students were asked to rate their perceptions of various aspects of their projects as well as how they felt about the classes. Each class also completed the SELEB scale. However, instead of asking students to rate the importance of each benefit, students were asked to indicate to what degree their project provided them with each of the 12 benefits. In all, 22 students in the public relations class and 20 in the marketing research class completed the questionnaire.

The “fun factor” involved in the project could be expected to influence respondents’ perceptions of the value of a service learning project. The fun factor of each project was assessed by considering how much the class project contributed to the value or enjoyment of the course. We therefore asked each student to indicate his or her agreement with the following statements: “I enjoyed the class a lot more because of the project” and “I would have preferred just lectures and quizzes with no class project.” Students expressed their level of agreement on a seven-point scale, with one representing strongly disagree and seven representing strongly agree.

A comparison of the mean scores of the two classes clearly indicates that students in the public relations class agreed with the first statement much more strongly than

students in the marketing research class (6.68 versus 4.50;  $F = 27.04$ ;  $p = 0.000$ ), and disagreed much more strongly with the second (reverse scaled) statement (1.82 versus 3.70;  $F = 11.29$ ,  $p = 0.002$ ). Together, these results demonstrate that the students in the public relations class viewed the service learning project as an important and enjoyable component of the class, whereas the students in the marketing research class were, at best, lukewarm with regard to the project.

Having established that the public relations class’ service learning project was more fun than the marketing research class project, we now move to an assessment of the ability of the SELEB scale to discriminate between the two service learning experiences. To demonstrate convergent validity, we would expect that the SELEB scale would provide results consistent with those in the two scale items reported above, reflecting that the two experiences provided students different benefits. As summarized in Table 9, that is clearly the case. The overall SELEB score, defined as the mean of the four dimension scores, is significantly higher for the public relations class. In addition, the mean score on each dimension is also significantly higher for the public relations students (these results appear in Table 9). Taken together, it seems clear that the SELEB scale accurately captures the difference between the service learning experiences of the two classes. The results obtained by the SELEB scale are consistent with respondents’ assessment of which project had a greater impact in the course.

**Table 9**  
**Results of Study 3 Validity Test of the SELEB Scale**

	Marketing Research Mean	Public Relations Mean	F	p
Overall SELEB	4.36	5.41	10.72	0.002
Practical Skills	4.70	5.61	6.62	0.014
Interpersonal Skills	4.12	5.36	11.83	0.001
Citizenship	4.14	5.20	6.87	0.012
Personal Responsibility	4.22	5.36	12.23	0.001

## DISCUSSION

Service learning is a widely used pedagogical tool. Although there are questions concerning the magnitude, service learning provides a number of benefits to students. Students develop practical skills, learn to work with each other to accomplish tasks, gain the satisfaction of giving back to their communities, and discover their own personal strengths and weaknesses. The benefits extend to the organizations that receive the assistance and to society as a whole. Faculty who include service learning in their classes may benefit from the integration of teaching, learning, and public service, requisites for tenure and promotion at most colleges and universities.

To date, little research has focused on the development of a systematic way to assess the service learning experiences of students. This research represents an important step forward in this regard by offering a carefully developed scale that captures and measures student perceptions of the benefits of service learning experiences. Proponents have long argued that service learning provides a broad range of benefits to students. However, in the past, these claims were generally supported by either anecdotal reports or measures that were subject to challenges regarding their validity. The SELEB scale offers the first opportunity to dispassionately assess the benefits of service learning.

The primary value of the SELEB scale may be as an outcomes assessment tool. Faculty can evaluate student perceptions of the service learning activities in their classes, assess the value of their service learning efforts from the viewpoint of the students, and evaluate the extent to which the service learning activity contributed to the learning objectives of the course. The managers of nonprofit organizations can benefit as well, by learning what experiences are perceived as most beneficial to students, and by working with faculty to construct service learning experiences that provide students with these benefits. For example, faculty members and nonprofit managers can develop service learning

responsibilities for students that specifically address one, several, or all of the SELEB dimensions. This collaboration may be key to developing service learning opportunities that benefit all stakeholders.

Nonprofit management can benefit by being involved in the project development and ensuring that their needs will be met. Students can benefit by entering a service learning experience with a clear understanding of what benefits they can expect to derive. Faculty can benefit through the development of clear, specific learning objectives, tailored to individual classes and, perhaps, individual students. Given the importance of volunteerism to the success of many nonprofits, coupled with the growth of service learning activities in the classrooms of the nation's colleges and universities, it behooves all stakeholders to develop and sustain service learning activities that are perceived as useful and valuable to the student participants.

Understanding the benefits that students receive from service learning offers educators the opportunity to refine service learning activities to permit faculty to structure a set of service learning activities that maximize their pedagogical value. For example, faculty could administer the SELEB scale prior to introducing the project in the class to learn how important each of the dimensions of service learning are to individual students (this would necessitate altering the instructions accompanying the 12 items). Based on the results of the scale, students could be assigned to specific aspects of the service learning project that are consistent with their perceptions of the benefits that can be derived. The scale could then be used periodically to assess if and how students perceive that they are benefiting from the project, and adjustments can be made in accordance with this feedback. The scale could also identify student weaknesses, and service learning projects can be altered to address these areas.

Finally, it should be recognized that faculty who undertake service learning projects assume a risk when doing so. By working with the community, faculty assume

responsibility for the successful completion of the project. An unsuccessful service learning project can have damaging consequences for all stakeholders and can dampen the enthusiasm of students, faculty members, and the nonprofit organizations that stand to gain from the project. The SELEB scale can be one tool to assist faculty members in developing and completing successful service learning programs.

In conclusion, the SELEB scale is a systematic tool developed to assess the benefits of service learning experiences. As such, it represents an important tool for those who are committed to making use of service learning initiatives in the classroom and using these service learning activities as effective pedagogical tools. The benefits of the SELEB scale have important implications for nonprofit organizations as well. These organizations, working in concert with faculty of colleges and universities, can use the scale to help develop effective, high-quality service learning partnerships that benefit the nonprofit organizations while simultaneously achieving clearly defined educational goals.

### LIMITATIONS AND FUTURE RESEARCH

As with all research, certain limitations must be noted. This research was conducted using students from two universities. Consequently, it has not been unequivocally established that the results are generalizable to other student populations. Furthermore, the SELEB scale is a work in progress. While evidence of its validity is presented, further testing with different samples and in alternative settings is needed to ultimately establish the scale's validity. Given the wide variety of service learning activities, it is important to assess the robustness of the SELEB scale across a range of experiences and across a more broad range of students as well. The scale was developed using students from a metropolitan state university in the northeast and a large university in the southwest. Future research should address whether the SELEB scale is a relevant tool for other student populations. Of particular interest is the efficacy of the SELEB scale across cultures. The perceived benefits of service learning arise as a result of students' values, and values are largely culture-bound.

The scale has the potential to be an excellent outcomes assessment tool. However, future research is necessary to establish the reliability of the scale, and to continue to assess the validity of the scale. Future research should also investigate the relative importance of the four dimensions identified in this research. It is plausible that one or another of the dimensions is substantially more important to most students than other dimensions.

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## APPENDIX A

### The 20-Item SELEB Scale

Please indicate how well your class project has provided you with the following educational experience with 1 being not at all and 7 being very much so.

---

Personal Growth	7	6	5	4	3	2	1
Ability to Work with Others	7	6	5	4	3	2	1
Leadership Skills	7	6	5	4	3	2	1
Communication Skills	7	6	5	4	3	2	1
Understanding Cultural and Racial Differences	7	6	5	4	3	2	1
Social Responsibility and Citizenship Skills	7	6	5	4	3	2	1
Community Involvement	7	6	5	4	3	2	1
Applying Knowledge to the "Real World"	7	6	5	4	3	2	1
Problem Analysis and Critical Thinking	7	6	5	4	3	2	1
Social Self-Confidence	7	6	5	4	3	2	1
Conflict Resolution	7	6	5	4	3	2	1
Ability to Assume Personal Responsibility	7	6	5	4	3	2	1
Development of Caring Relationships	7	6	5	4	3	2	1
Gaining the Trust of Others	7	6	5	4	3	2	1
Empathy and Sensitivity to the Plight of Others	7	6	5	4	3	2	1
Workplace Skills	7	6	5	4	3	2	1
Ability to Make a Difference in the Community	7	6	5	4	3	2	1
Skills in Learning from Experience	7	6	5	4	3	2	1
Organization Skills	7	6	5	4	3	2	1
Connecting Theory with Practice	7	6	5	4	3	2	1

*Notes:* The instructions above were used to assess the benefits of service learning among the two classes in the study. When developing the scale, the instructions were: "Please indicate how important each of the following are to you in your educational experience with one being not at all and seven being very much so."

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## APPENDIX B

### The SELEB Scale

Please indicate how important each of the following are to you in your educational experience with 1 being not at all and 7 being very much so.

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Applying Knowledge to the "Real World"	1	2	3	4	5	6	7
Workplace Skills	1	2	3	4	5	6	7
Organization Skills	1	2	3	4	5	6	7
Understanding Cultural and Racial Differences	1	2	3	4	5	6	7
Social Responsibility and Citizenship Skills	1	2	3	4	5	6	7
Ability to Make a Difference in the Community	1	2	3	4	5	6	7
Social Self-Confidence	1	2	3	4	5	6	7
Ability to Assume Personal Responsibility	1	2	3	4	5	6	7
Gaining the Trust of Others	1	2	3	4	5	6	7
Ability to Work with Others	1	2	3	4	5	6	7
Leadership Skills	1	2	3	4	5	6	7
Communication Skills	1	2	3	4	5	6	7

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