Community-Engaged Learning and Academic Gains in College

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University of Minnesota
CONCEPTUAL FRAMEWORK
Service-Learning and Academic Achievement & Educational Success

Mediating Factors
- Self-esteem
- Empowerment
- Prosocial behaviors
- Motivation
- Engagement
- Relationships
- Sense of Belonging

Service-Learning → Mediating Factors → Academic Achievement & Educational Success
CONCEPTUAL FRAMEWORK
Service-Learning and Academic Achievement & Educational Success

Mediating Factors

- Self-esteem
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- Motivation
- Engagement
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- Sense of Belonging

Service-Learning

Academic Achievement & Educational Success
CONCEPTUAL FRAMEWORK
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Mediating Factors

Service-Learning

Prosocial behaviors
Diverse interactions
Critical Conversations
Problem Solving
Critical Analysis

Academic Achievement & Educational Success
Measuring a Prosocial Behaviors

Prosocial behaviors
- Diverse interactions
- Critical Conservations
- Problem Solving
- Critical Analysis

Classroom-based experiences that promote prosocial behaviors

Prosocial behaviors conducted outside of class
CONCEPTUAL FRAMEWORK
Service-Learning and Academic Achievement & Educational Success

- Classroom experiences that promote prosocial behaviors
- Prosocial Behaviors Conducted Outside of Class

Service-Learning

Academic Achievement & Educational Success
Measuring Skills Gains in College

- Academic Achievement & Educational Success
  - Type A
  - Type B

- Gains in Academic Skills

- Gains in Cultural Competencies & Skills
CONCEPTUAL FRAMEWORK
Service-Learning and Academic Achievement & Educational Success

- Classroom experiences that promote prosocial behaviors
- Prosocial Behaviors Conducted Outside of Class
- Gains in Academic Skills
- Gains in Cultural Competencies & Skills

Service-Learning
Prosocial Behaviors
Educational Gains
CONCEPTUAL FRAMEWORK
Service-Learning and Academic Achievement & Educational Success

Academic Experiences

- Faculty Interaction
- Service-Learning
- Critical Thinking

Prosocial Behaviors

- Classroom experiences that promote prosocial behaviors
- Prosocial Behaviors Conducted Outside of Class

Educational Gains

- Gains in Academic Skills
- Gains in Cultural Competencies & Skills

Educational Gains
Conceptual Model

- Background Characteristics
- Academic Experiences
- Prosocial Behaviors
- Educational Gains
- College Environment
Research Question:

Does participation in service-learning opportunities contribute, either directly or indirectly, to improved academic and cultural skills development for students?
Motivations for our Study

• The need for more rigorous methods in service-learning research.
• The need for more robust study designs.
• The need for multi-institutional studies of service-learning.
• The need to develop models that incorporate service-learning with academic skills and educational outcomes.
SERU: Multi-institutional Study of Student Engagement

- Systematic environmental scan of the undergraduate experience
- In-depth analysis of the varied types and levels of undergraduate engagement in research universities
- The survey is organized around five thematic research areas:
  - Academic engagement
  - Civic and community engagement
  - Global knowledge, skills, and awareness
  - Student life and development
  - Wildcard module
Data

- 2010 SERU survey data from community engagement module.
- 20,426 data points from 12 AAU institutions.
- Large sample allowed for random halves which could be utilized for exploration and validation.
- After removing missing cases 1\textsuperscript{st} half N = 5,751 and 2\textsuperscript{nd} half N=5,802.
Latent Variable
Structural Equation Model

- Comprised of two distinct parts:
  - A *measurement model* which relates items or measures to theoretical constructs or latent variables.
  - A *structural model* which examine the potential relationship between latent and/or manifest variables with regressions.
Endogenous Measures

- **Stage Two: Academic Experiences**
  - Faculty Interaction ($\alpha = 0.802$)
  - Critical Thinking ($\alpha = 0.861$)
  - Service-Learning ($\alpha = 0.830$)

- **Stage Three: Prosocial Behaviors**
  - In-Class Prosocial Behaviors ($\alpha = 0.934$)
  - Out-of-Class Prosocial Behaviors ($\alpha = 0.940$)

- **Stage Four: Educational Gains**
  - Academic Skills ($\alpha = 0.777$)
  - Cultural Competencies and Skills ($\alpha = 0.779$)
Proposed Structural Model

Background Characteristics

Academic Experiences

Prosocial Behaviors

Educational Gains

College Environment
Does the model fit?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Recommendations (Schreiber, et al. 2006)</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Random Half</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Random Half</th>
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<tbody>
<tr>
<td>Chi-Squared (df)</td>
<td>Ratio to df ≤ 2 or 3, useful for nested models</td>
<td>11717.10 (692)</td>
<td>10552.19 (692)</td>
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<tr>
<td>Normed Fit Index</td>
<td>≥ .95 for acceptance</td>
<td>0.96</td>
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<tr>
<td>Tucker-Lewis Index</td>
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<td>Root mean square error of approximation (RMSEA)</td>
<td>&lt; .06 to .08</td>
<td>0.053</td>
<td>0.052</td>
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</table>
What does the model tell us about the effects of service-learning on educational gains at research universities?
Service-Learning and Reported Gains in Academic Skills

- Faculty Interaction
- Critical Thinking
- Service-Learning
- In-Class Prosocial Behaviors
- Academic Gains $R^2 = 0.17$
- Out of Class Prosocial Behavior
- Cultural Gains

Standardized Beta Coefficients
Service-Learning and Reported Gains in Academic Skills

In-Class Prosocial Behaviors

Academic Gains
R² = 0.17

Faculty Interaction

Service-Learning

Critical Thinking

Out of Class Prosocial Behavior

Cultural Gains

Standardized Beta Coefficients
Service-Learning and Reported Gains in Cultural Skills

Service-Learning

Faculty Interaction

In-Class Prosocial Behaviors

Critical Thinking

Out of Class Prosocial Behavior

Cultural Gains

R² = 0.08

Standardized Beta Coefficients

0.09*

0.06*

0.09*

0.15*

0.03
### Summary of Results

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Potential Limitations

- Institutional Setting?
- Survey Instrument?
- Nonresponse Bias?
- Measurement Error?
- Nomanalistic Fallacy?
- Self-Reported Gains?
Conclusions
Future research directions

- Examine differential service-learning outcomes for different subgroups of students
- Analyze mediating factors beyond prosocial behaviors
- Incorporate in analyses issues pertaining to the quality of service-learning experiences
Questions?
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SERU results for University of Minnesota
http://engagement.umn.edu

Powerpoint available at
SERU Survey Design

- Web-based Census Survey of Undergraduates
- Modular Construction—minimize time needed for completion
- Core Items (100% of participants)
- Modules (1 of 4 randomly assigned to varying % of participants)
  - Academic Engagement - 30%
  - Community & Civic Engagement - 20%
  - Student Development - 20%
  - “Wild-Card” — 30%
Results: Faculty Interaction

Faculty Interaction

In-Class Integration

Academic Gains
R2 = 0.20

College Environment
Cultural Gains

Out of Class Integration

0.13*
0.15*
0.00
0.11*
0.09*
0.02
0.15*
0.03*
Results: Critical Thinking

- **In-Class Integration**
  - $R^2 = 0.28$

- **Academic Gains**
  - $R^2 = 0.17$

- **Out of Class Integration**
  - $R^2 = 0.21$

- **Cultural Gains**
  - $R^2 = 0.08$

**Critical Thinking**

- $0.44^*$
- $0.36^*$
- $0.03^*$
- $0.03^*$
- $0.09^*$
- $0.09^*$
- $0.03^*$
- $0.15^*$
- $0.02^*$
Results:
Service-Learning

- Background
- Characteristics
- Service-Learning
- Integration
- Academic Gains
  - R2 = 0.20
- College Environment
- Faculty Interaction
- Cultural Gains
- Out of Class Integration
  - 0.03*
- 0.09*
  - 0.05*
  - 0.06*
  - 0.15*
  - 0.15*
  - 0.03*

Diagram:
- Service-Learning
- In-Class Integration
- Academic Gains
- College Environment
- Faculty Interaction
- Cultural Gains
- Out of Class Integration

Connections:
- Service-Learning to In-Class Integration: 0.09*
- In-Class Integration to Academic Gains: 0.09*
- Service-Learning to Out of Class Integration: 0.06*
- Out of Class Integration to Cultural Gains: 0.15*
- Academic Gains to Cultural Gains: 0.20
- Cultural Gains to Service-Learning: 0.03*