Service Learning and Student Outcomes

Investigating TBR High Impact Practices

Updated: 12/2021
Motivation & questions

1. Does service learning affect:
   - Likelihood of graduation, transfer & departure?
   - Academic performance?
   - Progression to completion, transfer & departure?

2. Do effects differ by duration & frequency?
Study design

Key issue:
SL & non-SL students are systematically different

Approach:
- Compare similar students
- Weight on inverse probability of treatment
- Machine learning for propensity scores
- Binary & frequency analyses
- Logistic & OLS regression, EHA
Factors accounted for

Demographic:
- Age, gender, ethnicity, residency, Pell eligibility

Academic:
- ACT score, HS GPA, diploma type, learning support, Promise, attempted credits, attendance, delay, TTP, major groups

Financial aid:
- Grant amount: Pell, TN Promise, TN Lottery, TSAA

College of enrollment
<table>
<thead>
<tr>
<th>Duration</th>
<th>Overall</th>
<th>Analytic sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any SL</td>
<td>5,057</td>
<td>5,057</td>
</tr>
<tr>
<td>SL - 1</td>
<td>&lt; 10 hours</td>
<td>2,970</td>
</tr>
<tr>
<td>SL - 2</td>
<td>10 - 19 hours</td>
<td>3,490</td>
</tr>
<tr>
<td>SL - 3</td>
<td>&gt; 20 hours</td>
<td>263</td>
</tr>
<tr>
<td>Multiple SL</td>
<td></td>
<td>1,656</td>
</tr>
</tbody>
</table>
Outcomes by SL participation

Track 21,578 freshmen over 12 terms

Cohort
- 5,057 SL participants
- 16,521 Non-participants

Graduated
- 40.8%
- 25.6%

Transferred
- 30.6%
- 23.0%

Still enrolled
- 5.3%
- 4.4%

Dropped out
- 46.5%
- 61.1%

Graduated after transfer
- 3.0%
- 2.7%

Transferred after graduation
- 20.3%
- 11.4%

Data from: TBR & NSC
Interpreting the findings

Outcomes for students who are similar in:

- Likelihood of SL participation
- Control variables

Averaged outcomes at the population level

Results that are unlikely to be due to chance alone
Increase in GPA for SL participants

On average, participants’ GPA is .31 points higher than the one for similar non-participants

Mean GPA: 2.99
St. Dev.: 1.02

95% confidence interval
Increase in GPA by SL frequency

GPA of students who participated 3+ times is half a point higher, on average

Small sample size
Increase in probability of graduation

Participants are 17 pp more likely to graduate than similar non-participants.

Smaller sample size
Students who participated twice are 26 pp more likely to graduate.
SL participants progress to completion faster

Participants are 14% more likely to graduate in any term than non-participants

Smaller sample size
Students who participated twice are 31% more likely to graduate in any term than non-participants.
Participants are 7 pp more likely to transfer than similar non-participants.

Not statistically significant due to smaller sample size.
Probability of transfer by frequency

Students who participated twice are 9 pp more likely to transfer

Not statistically significant
Decrease in probability of departure

Participants are 20 pp less likely to depart
Students who participated twice are 27 pp less likely to depart.

Small sample size
Key takeaways: Most analyses

Positive outcomes of SL participation:

- Higher probability of graduation & transfer
- Faster progression to graduation
- Higher GPA
- Lower probability & slower progression to departure

Results improve with an increase in duration & frequency.

Effect sizes are nontrivial.
Find out more

www.tbr.edu/policy-strategy/presentations-and-papers

Project team:

Alex Gorbunov       Amy Moreland
Chris Tingle        Russ Deaton
Heidi Leming        Melynda Conner

alex.gorbunov@tbr.edu
### Select findings: Summary

<table>
<thead>
<tr>
<th></th>
<th>Increase in GPA</th>
<th>Change in probability of:</th>
<th>Increase in hazard for graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Graduation</td>
<td>Transfer</td>
</tr>
<tr>
<td>Any SL</td>
<td>0.31</td>
<td>17 pp.</td>
<td>7 pp.</td>
</tr>
<tr>
<td>SL - 1</td>
<td>0.30</td>
<td>16 pp.</td>
<td>5 pp.</td>
</tr>
<tr>
<td>SL - 2</td>
<td>0.27</td>
<td>15 pp.</td>
<td>11 pp.</td>
</tr>
<tr>
<td>SL - 3</td>
<td>0.60</td>
<td>33 pp.</td>
<td>-</td>
</tr>
<tr>
<td>Any SL - once</td>
<td>0.31</td>
<td>16 pp.</td>
<td>6 pp.</td>
</tr>
<tr>
<td>Any SL - twice</td>
<td>0.39</td>
<td>26 pp.</td>
<td>9 pp.</td>
</tr>
<tr>
<td>Any SL - 3+ times</td>
<td>0.51</td>
<td>31 pp.</td>
<td>9 pp.</td>
</tr>
</tbody>
</table>