The Effects of Service-Learning on College Students’ Learning Outcomes: A Linguistic Analysis of Service-Learning Reflections

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The purpose of this study was to investigate how participation in a semester-long service-learning project impacted undergraduate students’ cognitive, social, and emotional outcomes as traced in written reflections, as well as to examine whether diverse subgroups of students differed in writing about their service-learning experiences.

Background on Service-Learning
- Service-learning (SL) is a pedagogical approach that pairs academic course learning with meaningful opportunities to engage in public service (Eyler, 2002).
- SL aims to engage students in their communities, promote civic responsibility, and provide students with experiential learning.
- SL outcomes include improvements in students’ social, civic, and cognitive skills, and greater acceptance of diversity (Novak, Markey, & Allen, 2007).

Research Questions
1. To what extent do students demonstrate evidence of cognitive, emotional, and social outcomes in writing over four time points in a semester service-learning project?
2. To what extent do student SL outcomes vary across different student subgroups?

Methods
Participants: 123 undergraduate students enrolled in a second-year seminar course. 85 participants were female (69%), 53 were under-represented minority students (43%), and 70 were first-generation college students (57%).

Procedures: Students engaged in a semester-long service-learning project (10-15 hours) of their choosing. Students were prompted to reflect upon their service-learning experiences before, during, and upon completion of hours.

We used a quantitative text analysis approach, using LIWC text analysis service-learning experiences before, during, and upon completion of hours.

software to examine linguistic features of students’ reflective writing. LIWC software calculated the percentage of words in the writing samples that fell into the following linguistic feature variables:

- Analytical scores
- Cognitive words
- Comparatives
- Causal words
- Emotional words
- Differentiation words

We used an uncommonly used methodology that quantitatively examines reflective writing more reliably.

Results: Research Question 1

Cognitive Outcomes: Analytical scores, Cognitive words, Comparatives, Causal words, Emotional words, Differentiation words

Results: Research Question 2

Differences by demographic group
Males and Females
Cognitive Processes: Men used significantly more comparatives and were significantly more analytical compared to women.
Emotional Processes: No differences
Social Processes: No differences

Underrepresented Minority and Non-minority Students
Cognitive Processes: No differences
Emotional Processes: No differences
Social Processes: Minority students used the pronoun “you” significantly more than non-minority counterparts.

First- and Continuing-Generation Students
Cognitive Processes: No differences
Emotional Processes: No differences
Social Processes: First-generation college students used the pronoun “you” significantly less than continuing generation counterparts.

Discussion
- Overall, our findings suggest that participating in a semester-long SL project impacts cognitive, emotional, and social processes in students’ writing.
- Students demonstrated development in cognitive outcomes throughout the SL project based on the significant increase in cognitive words over time.
- In terms of emotional changes, our findings suggest that students increased in negative emotional states, and decreased in positive emotional states.
- In terms of social changes, our results reveal that students become less self-focused and more other-focused, suggesting that students shift from an exclusive focus to an inclusive focus as a result of SL.
- Our results identified few subgroup differences; we found men to be more analytical in reflective writing, and underrepresented minorities and continuing-generation students more likely to use the pronoun “you.”
- In sum, this study assessed SL outcomes using an uncommon text analysis methodology, and found significant changes in cognitive, emotional, and social outcomes in students’ reflective writing over time.
- The findings have important implications for universities seeking to develop students’ learning outcomes and enhance their educational experience through service-learning.