

# Analyzing Reflections in Service Learning to Promote Personal Growth and Community Self-Efficacy

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## **Abstract**

The use of structured reflections for promoting personal understanding and community self-efficacy was examined in 65 occupational therapy college students in a service learning course. Students in the experimental group wrote structured reflections throughout the semester while students in the control groups used non-structured reflections. Outcome measures included quantitative tests of personal understanding and community self-efficacy (Personal Growth Initiative Scale, New General Self-Efficacy Scale, and the Community Self-Efficacy Scale) and a qualitative narrative. Results indicated that students who wrote structured reflections significantly increased in personal growth and personal self-efficacy, whereas those using non-structured reflections showed no change. Both groups improved in community self-efficacy scores with no significant difference between groups.

## **Keywords**

service learning, reflections, personal growth, community self-efficacy

## **Introduction**

Service learning has the potential to affect students' personal growth, civic responsibility, and social understanding through linking personal insights with coursework and real-world experiences (Celio, Durlak, & Dymnicki, 2011; Kuh, 2005; Yorio & Ye,

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2012). Self-reflection, a key component of service learning, encourages students to intentionally consider their community experiences to understand how the experience has affected them on personal and academic levels (Eyler, 2002; Hatcher, Bringle, & Muthiah, 2004). Mega-analyses of service learning experiences suggest that use of structured reflections promotes such insight (Conway, Amel, & Gerwien, 2009; Yorio & Ye, 2012). However, variations exist in the type, quality, and frequency of written reflections, which may affect desired outcomes (Eyler, 2002; Mabry, 1998). This project examined the use of structured versus non-structured written reflections as promoting personal understanding and community self-efficacy in junior occupational therapy students during a semester-long service learning course.

### Review of Literature

Dewey (1910), an early proponent of experiential learning, advocated for the use of reflection to promote self-understanding. Kolb (1984) formalized the reflective process suggesting that reflection, coupled with feedback, has the potential to transform student learning from a concrete experience to an abstract understanding of the content enabling students to create and apply new knowledge. Hatton and Smith (1995) described four levels of reflection representing increasing levels of introspection and appreciation for the broader social context around an issue: *Descriptive writing* describes the experience, *descriptive reflection* describes the experience including personal judgment, *dialogic reflection* is discourse with oneself examining one's role in events and alternative explanations for occurrences, and *critical reflection* additionally considers the multiple social and political contexts. Eyler and Giles (1999) found that deep student reflections, akin to dialogic or critical reflection, were key to linking real-world experiences to academic content and understanding of complex social issues.

Although faculty attested to the value of reflection in the 1990s, Batchelder and Root (1994) found that reflections were underutilized in service learning experiences. Thus, Eyler (2002) and Ash, Clayton, and Day (2005) developed writing guidelines to encourage quality student reflections, and Felten, Gilchrist, and Darby (2006) encouraged emotional reactions to be included in guidelines to facilitate introspection. When structured-reflection questions were utilized, educators reported gains in students' critical-thinking skills and personal growth (Ash, Clayton, & Atkinson, 2005).

Personal growth through service learning has been conceptualized in Mezirow's (2000) theory of transformational learning as a transformative process in which students become aware of tacit assumptions through analyzing values and beliefs around learning experiences, using feedback to further personal understanding. Boud (2001) discussed past experiences as the foundation for developing current insights and personal introspection. Eyler (2002) described the reflection process as having anticipatory, ongoing, and post-experience components, all of which contribute to introspection.

Although these foundational concepts for writing reflections are well regarded, a wide range of practices currently exists regarding the types and frequency of reflections used. Hubbs and Brand (2007) found that less than half of 272 counselor

educators provided structured guidelines or criteria for writing reflective journals. Amerson (2010) reported frequent use of reflections with nursing students, but no specific writing guidelines. Similarly, Karasik (2013) found that gerontology educators used "open journaling," the frequency ranging from daily to a final entry. Physical therapy educators used a more structured approach with clear expectations for length (2-3 paragraphs), timing (within 24 hr), and content (Nowakowski, Kaufman, & Pelletier, 2014).

Outcomes for service learning experiences generally indicate that students are meeting stated objectives for personal growth as measured by qualitative analysis of responses to questions such as, "Did you experience personal growth as a result . . . ?" (Quezada & Christopherson, 2005, p. 6). Hubbs and Brand (2010) and Molee, Henry, Sessa, and McKinney-Prupis (2010) developed well-designed rubrics to differentiate levels of critical thinking. Although qualitative analysis illustrates personal learning, it is not clear if students have made significant gains from beginning to the end of the experience, or whether the type of reflections affects the reflective process.

Strong evidence as to the value of structured written reflections is limited by variations in reflection guides, the use of non-standardized measures, variety in assessments, and differences in learning objectives associated with service learning experiences (Bringle, Phillips, & Hudson, 2004). Evidence is needed to develop best practice guidelines for using reflections with college students (Amerson, 2010; Karasik, 2013) that justify both the outcomes and time required for students to write and faculty to respond to reflections. This study examined the pedagogical value of structured reflections relative to students' personal understanding and community self-efficacy.

Quantitative and qualitative outcomes were used to measure change and understand the personal transformations that occurred via service learning experiences (Eyler, 2002; Molee et al., 2010). For the purpose of this project, personal understanding refers to personal self-efficacy and personal growth, both considered to be valuable outcomes in college students' educational process (Kuh, 2005). Personal self-efficacy is defined as the belief in one's ability to successfully effect change across situations (Bandura, 1995); personal growth refers to a cognitive and emotional readiness to grow and embrace challenges (Robitschek, 1998). Personal growth includes clarifying values, checking personal assumptions, identifying strengths, and indicating a desire to change. Community self-efficacy refers to perceiving an impact on the community.

## **Research Purpose and Questions**

**Research purpose.** The purpose of this study was to examine the structure and frequency of reflections in service learning as influencing personal understanding and community self-efficacy in college students. The project utilized standardized tests order to demonstrate the impact of structured written reflections on outcome variables.

**Research Question:** Does the use of structured, written reflections affect personal understanding and community self-efficacy in college students more so than use of non-structured reflections?

**Hypothesis:** Regular, structured written reflections with instructor feedback will promote increased personal understanding and community self-efficacy more so than using non-structured reflections.

## Method

### *Subject Population*

Junior occupational therapy students attending a university in the Northeast were invited to participate through an email invitation and at the first class meeting. The service learning experience was affiliated with a course titled the occupational therapy framework, in which students learned about typical activities of persons in the community while delivering a service. Students had the option of deciding to “opt out” of the pre-/post testing although all students were required to complete class assignments. Students who agreed to participate completed the informed consent.

### *Research Design*

**Research design.** This study used a mixed method, triangulation design to gather the data necessary for answering the research questions (Creswell & Clark, 2007). Molee et al. (2010) suggested the use of mixed-method designs for examining service learning outcomes due to the need to show objective change, yet, individual nature of personal transformations. For the quantitative component, a quasi-experimental design was employed using a pre/post-test design with control and experimental groups. Three standardized tests compared personal growth, personal self-efficacy, and community self-efficacy between control and experimental groups. These outcomes were triangulated through qualitative reflections of personal growth and community self-efficacy in a final reflective paper for both groups.

Eight service learning groups (of 6-8 students) participated in the project. Four groups were designated as the control groups and four groups were designated as the experimental groups. Students met once per week for an entire semester either in the class or in the community for a minimum of 16 hours of direct service with community partners.

**Sampling strategy.** A matched-sampling approach was used to promote comparability between the control and experimental groups because randomization was not feasible. A matched-subject design uses separate groups for each experiment and control group, but attempts to match group characteristics in one group with an equivalent in another. The control group samples were matched with experimental groups based on similar service learning foci or populations to the extent possible. The groups were the following: working with children (Backpack Safety [experimental] and Paws for Reading [control]); working with women (Sew to Grow, women with Alzheimer’s Disease [AD; experimental] and Church on the Rock, women who were abused [control]); working with disability-related groups (individuals with AD [experimental] and Parents of

Service Learning Final Reflection Rubric						
Final Reflection Questions	Not present 0	Identify/ Describe 1	Apply 2	Analyze and Synthesize 3	Evaluate 4	Total
1. Describe your service event/work (check only)						
2. Describe what you learned about yourself, your personal skills/abilities, and personal values.	No mention of personal skills 0	Listed personal skills or values 1	Applied personal skills/values to service context 2	Analyzed how self-perception changed and why 3	Evaluated which skills to develop or change in the future 4	
3. Identify how you impacted the setting or community.	No mention of impact 0	Described service in community 1	Described unique role in service 2	Analyzed how personally impacted key parts of service 3	Evaluated how could further impact service in the future 4	
4. How did service learning relate to class content? Please provide an example of what you learned and how service learning exemplified this.	No mention of class content 0	Identified and described basic class concepts, but no link 1	Applied class concepts to service learning experience. Linked both 2	Analyzed course content relative to SL experience; compared, contrasted, or explained greater understanding 3	Evaluated need for more information; how did SL inform practical application of content 4	
5. Describe one particular event during your service learning experience. What were the broader social issues that impacted the event?						
<i>Paper analyzed according to:</i> - Complexity of systems- Number of distinct systems involved as subjects, targets of action, or reason for actions		Count number of systems mentioned -----				
-Multidimensionality of issues- Number of dimensions related to the issue or focus		Count number of dimensions mentioned				
-Understanding of relationships between the individuals served and social systems (i.e. disparities, social justice)	No 0	Yes 1				
6. How did it impact your view of the world? Yes/No	No Impact 0	Yes Impact 1				

**Figure 1.** Scoring rubric for final qualitative reflection papers.

Children With Disabilities [control]); and disability awareness for children (Kids-on-the-Block puppet show groups, one in experimental and one in control group).

### *Intervention: The Reflection Process*

Students in all groups were encouraged to write down brief notes after each visit to remind themselves of the experience and their initial reactions. Both groups completed a final summative reflection paper at the end of the semester addressing personal and community experiences (see Figure 1).

*Non-structured reflection group.* Students in the control group wrote informal reflections for themselves and participated in debriefings as customary practice. They completed all assignments in the syllabus including a final reflection paper.

*Structured-reflection group.* Students in the experimental group wrote structured reflections after every community visit. The model for writing and implementing reflections was based on current practices for written reflections (Ash & Clayton, 2004; Boud, 2001; Eyler, 2002):

1. *Pre-reflection.* In the first service learning group session, students wrote (a) a short personal letter to themselves about what they expected to see and (b) a goal statement about what they expected to learn.

2. *Ongoing reflections.* Students wrote structured reflections of one to two pages (at least 20 minutes of writing) after each community experience. Students sent the reflection to the instructor via an email attachment. Structured reflections included the following specific components:

- What you did (“Describe your experience and how you felt”)?
- What you learned about yourself, the community (setting or context), *and* the activity process?
- What you would like to improve in yourself or the experience to make a difference in the community?

Instructors provided brief, written feedback via email to students before the next community experience. Feedback typically commented on students’ insights, supported their engagement, and challenged their assumptions.

3. *Post-reflection.* Students completed the final reflective paper at the end of the semester.

### ***Instruments and Outcome Measures***

***Personal demographics.*** Students completed a questionnaire that included demographic information (age, gender, and race/ethnicity) and background on previous volunteer experiences, direct hours of community service, and types of reflections engaged in throughout the semester.

***Personal Growth Initiative (PGI).*** The PGI reflects the intentional process of self-change and developing as a person (Robitschek, 1998). Consistent with the process of personal transformation, the PGI measures a person’s self-understanding of beliefs, attitudes, and values, along with readiness for personal change. The PGI is used with college students as an indicator of the multi-dimensions of mental health (Robitschek & Keyes, 2009). The PGI is a nine-item scale scored from 1 (*definitely disagree*) to 6 (*definitely agree*) and summed to form an overall interval score. Eight-week test–retest reliability is good, at  $r = .74$ .

***Personal self-efficacy.*** is the belief that one can effect a change or execute a task successfully or achieve desired goals (Bandura, 1995). Self-efficacy in college students has been equated with positive coping, working successfully on interprofessional teams, and achieving career goals; thus, high self-efficacy scores are consistent with personal development in college students (Kuh, 2005). Self-efficacy can be measured relative to a specific situation such as a service learning experience or relative to a trait that reflects one’s ability to perform across situations. This study measured the latter using the New General Personal Self-Efficacy Scale (NGSES) due to its ability to capture generalized self-efficacy as distinct from the construct of self-esteem. The NGSES is an eight-item scale scored from 1 (*strongly disagree*) to 5 (*strongly agree*). The scale

has good test–retest reliability (.67) and internal validity ( $\alpha$  coefficient = .86). The overall NGSES score reflects a sum of all items (Chen, Gully, & Eden, 2001).

**Community Service Self-Efficacy (CSSE) Scale.** The CSSE Scale measures individuals' confidence in their abilities to contribute to the community through service learning (Reeb, Katsuyama, Sammon, & Yoder, 1998). The CSSE was utilized because serving and perceiving an impact on the community was an objective for this course. The CSSE is a 10-item scale scored as 1 (*quite uncertain*) to 10 (*certain*) for each question. The CSSE has good internal consistency (Cronbach's  $\alpha$  = .94) and test–retest reliability at  $r$  = .62. The overall test is scored by calculating the mean of all questions.

The qualitative understanding of students' personal growth and community self-efficacy was triangulated through the final narrative reflection question (see Figure 1). The personal growth questions included, "Please describe your personal growth throughout the semester including abilities, skills, and values" and "Please describe a particular moving event and how that event impacted you." The prompt for community self-efficacy was, "Please describe your impact on the community."

### Data Collection

The New Global Self-Efficacy Scale, PGI, and the CSSEs were administered to all students at the first meeting of the associated lecture class. Both groups completed final reflection assignments in Week 14 of the course. The post-tests were administered at the last class after completing all community experience, reflections, and the final reflection paper (Week 15).

### Data Analysis

Quantitative data were analyzed using SPSS 21. Demographic information was analyzed using descriptive statistics. The general linear model, repeated-measures test, was used to determine within-group changes from pretest to post-test. ANOVA was used to analyze between-group differences in change scores.

Qualitative analysis of final reflection narratives for personal learning and community self-efficacy were analyzed by three subject matter experts (SMEs), who were occupational therapy (OT) faculty researchers and previous service learning mentors. Reflections were analyzed according to a scoring rubric adapted from Molee et al. (2010) that integrate increasing levels of introspection (Hatton & Smith, 1995) and critical thinking around personal understanding and community self-efficacy based on Bloom's taxonomy (1 = *identify*, 2 = *apply*, 3 = *analyze*, 4 = *evaluate*). Units of analysis were phrases in responses to each question that indicated elements of critical thinking (Ash et al., 2005). The elements identified were accuracy of the description, relevance of content, role of self, depth of response, alternative explanation of events, self-analysis, social context or system, and plans for future improvement. A score of 3 or 4 indicated the level of introspective, deep learning (Ash et al., 2005).

Qualitative thematic analysis using categorization and coding was conducted for narrative reflections as a whole to triangulate the quantitative findings and understand the nature of personal transformations. SMEs read all papers to immerse themselves in the data and establish a sense for the content prior to categorization and coding. No preconceived categories were established prior to reading the papers; thus, broad categories were first established through SMEs sharing initial impressions in the first read-through. The initial discussion yielded six categories that were condensed into three themes once commonalities among categories emerged. Papers were reread and coded with key words or phrases to represent aspects of themes; quotes representing exemplars were highlighted. Overlap occurred, with exemplars illustrating several categories and themes of meaning. The trustworthiness of the analysis was maintained by following pre-established procedures, reaching consensus on coding categories, and member-checking with a sample of students (Creswell & Clark, 2007; Hsieh & Shannon, 2005).

## Results

### *Sample Demographics*

*Personal demographics.* Participants included 65 junior occupational therapy students, with a mean age of 20.64 years ( $SD = 2.25$  years). Although 65 students participated in the study (providing data at different stages), 47 students completed all pretest and post-test data; 53 of the final reflection papers were analyzed. In this sample, 89% (56) were female and 11% (7) were male. The race/ethnicity of individuals was 80% White, 20% Hispanic, and 5% Asian Pacific Islander.

*Previous volunteer experience.* The majority of students (94%) had previous service learning experience in high school or college, with about 50% of the sample having *two or more* previous service learning experiences. The average hours of direct community service was 17.25; there were no significant differences between experimental and control groups in age, previous or current volunteer experience, or the number of direct service learning hours.

### *Use of Reflections: Type and Frequency*

All students participated in a variety of reflections throughout the service learning experience, including personal goal-writing, peer debriefing, informal discussions with colleagues, weekly reflections, the final reflection paper, and preparation of materials for community work. Students in the experimental group reported engaging in significantly more types of reflections than the control groups (Experimental, 5; Control, 3.5;  $p = .000$ ). The most common types of reflections among both groups were debriefing with the instructor and informal discussion with colleagues. The experimental group completed significantly more hours of weekly written reflections than the control group (Experimental, 1.15 hr; Control, 0.3 hr;  $p < .00$ ), although both



**Table 1.** Service Learning Outcomes for Personal Growth, Personal Self-Efficacy, and Community Self-Efficacy.

Scale	<i>n</i>	Pretest <i>M</i> ( <i>SD</i> )	Post-test <i>M</i> ( <i>SD</i> )	<i>p</i> value
New General Self-Efficacy Scale				
Within-group difference				
Experimental	26	32.00 (2.95)	36.84 (2.88)	<i>p</i> = .000
Control	20	32.20 (2.82)	31.20 (8.73)	<i>p</i> = .628
Between Group difference				<i>p</i> = .013
Personal Growth Initiative Scale				
Within-group difference				
Experimental	27	43.41 (5.0)	46.81 (4.83)	<i>p</i> = .004
Control	20	42.55 (2.39)	44.00 (5.30)	<i>p</i> = .198
Between-group difference				<i>p</i> = .071
Community Service Self-Efficacy Scale				
Within-group difference				
Experimental	27	8.61 (0.86)	9.33 (0.70)	<i>p</i> = .002
Control	20	8.65 (0.73)	9.20 (0.68)	<i>p</i> = .011
Between-group difference				<i>p</i> = .638

groups spent similar amounts of time on the final reflection paper (Experimental, 1.85 hr; Control, 1.91 hr).

### *Quantitative Outcomes: Personal Understanding and Community Self-Efficacy*

**Personal understanding.** The experimental group showed a significant increase in personal self-efficacy scores (NGSES;  $p < .001$ ) from pretest to post-test, whereas the control group showed no significant change (see Table 1). The ANOVA showed a significant difference between the two groups in post-test scores ( $p = .013$ ) with the experimental group scoring significantly higher at post-test.

Similarly, for personal growth (PGI), the experimental group scores significantly improved at post-test ( $p = .004$ ) while control group changes were not significant. The post-test difference between control and experimental groups was  $p = .071$  on ANOVA analysis (see Table 1). Scoring of the final reflection paper indicated that 84% of students in the experimental group and 45% of the control group scored at Levels 3 (analyze) or 4 (evaluate), indicating a higher percentage of students advanced critical thinking around personal growth for the experimental group.

**CSSE Scale.** CSSE scores significantly improved for both experimental ( $p = .002$ ) and control groups ( $p = .011$ ). However, no significant difference in change scores was noted between groups in post-test scores ( $p = .64$ ; see Table 1). This indicates that structured reflections had no significant effect on community self-efficacy scores. Nevertheless, scoring of the final reflection paper indicated that 71% of students in the

experimental group scored in the “analyze” and “evaluate” levels, whereas 41% of students in the control group scored in these levels.

### ***Qualitative Themes Supporting Personal Understanding and Community Self-Efficacy***

Common themes around students’ personal understanding and their impact on the community were interwoven into narrative reflections for all eight service learning groups.

#### **Theme 1: Changes in personal assumptions associated with community populations**

Students explained that they entered the service learning experience with distinct notions about a population’s characteristics and how they would interact with this population. Their preconceived notions centered on the population’s assumed abilities, means of behaving, and students’ means of engaging with them. In most cases, students’ initial expectations for the population’s capabilities were low, based on media portrayals, students’ inexperience, or anecdotal stories. However, students changed their perceptions after developing relationships with community partners over the semester. Students who worked with underserved women were amazed at the life experiences women shared and their adept skills at sewing; students working in a Birth to Three program were surprised at the impact that mothers had on the progress of their children with disabilities; other students recognized the lasting individuality of people with AD and unique ways to connect with them. A junior OT student worked with an older adult at the Alzheimer’s Center.

I learned that people with Alzheimer’s get stereotyped about what they like to do. Just because you have Alzheimer’s it doesn’t mean you don’t have interests of your own. I realized that when my guy did not like doing the typical crafting activities. Many people think these folks lose their cognitive ability and their sense of personality too, but that wasn’t true.

A second OT student, also worked with individuals with AD in a memory-impaired unit using animal assisted therapy.

I was at first uncomfortable with this population because I did not know what to say, and what they understood. Then I used animals to break down communication barriers for myself with this population and saw their joy. I knew that we could reach them and make a difference.

A third OT student summed up others’ responses: “This taught me a very important lesson, which was not to judge a book by their cover. Never underestimate the functioning of your clients, which is exactly what I was doing at first.”

#### **Theme 2: Learning about the impact of environment on individuals’ behavior**

Students were affected by challenges of individuals in the community around the realities that they “took for granted.” Such realities were children with no space for outside play, mothers of children with disabilities who worry about typical developmental milestones, and children who could not afford backpacks, among others. Service learning students who presented the Kids on the Block bike safety puppet show were “shocked” when one third-grader stated that he lived in an apartment, had no place to ride his bike, and his parents were too busy to take him to a park. Students had difficulty understanding how parents’ time and work were sometimes prioritized over health for their children. Students presenting backpack safety were surprised at the limited choices around backpacks for some students. One student recognized how even children as young as third grade perceived their economic situation and strived to “save face.”

We discussed different options for backpacks. When the discussion of string bags came up, it was brought to my attention that a student did, in fact, utilize a string bag as his everyday school backpack. Some of his classmates began to make fun of him and say that the only reason that he uses a string bag is because he is too poor to afford another bag. Kids said that this student always *says* he has a lot of money but he is lying. It was during this experience that my eyes were opened to the effect that socioeconomic status has on a child’s resources and social interactions with others. I guess I was lucky growing up.

Service learning students also learned about the impact of media on body image of children and the negative self-perceptions these created for young children. “It was very heartbreaking to see that 7 and 8 year olds were concerned with being made fun of by others because of their weight and they may not have money to buy healthy food.” One student reflected on how the diversity of students and environments would affect her future planning.

Although we thought that the activities we designed would serve all the students, we didn’t expect the diversity or big differences among the children and think about how this would be an issue. I saw this with the weighing activity and the [third-grade] girl who was self-conscious about her weight. I also saw this in students who struggled with the math activities. We saw such a difference in ability among different classes, which could have been a product of the differences in the school, teachers or specific social environment. It was an eye-opener.

### Theme 3: Personal understanding of new systems

Students were exposed to a variety of systems including assisted living centers, memory-impaired units, elementary schools, and faith-based shelters, among others. Some students were surprised about the day-to-day realities of the system. In an assisted living center, students were surprised at rigid structure and the constant change in staff that seemed to depersonalize clients. In schools, students were startled at the high security around schools. Another student who participated in backpack safety stated, “Because of Sandy Hook and the recent gun scares, the elementary school made each

visitor show his or her ID at the door before entering the school and then we each had to sign in/out individually.” This new level of security seemed “odd” and almost “scary” to encounter at a school, but a new reality.

An OT student who worked with women in Sew to Grow learned that good health is not an assumed norm (as it was for her) in women who live with communicable diseases.

The woman I worked with cut herself with the rotary cutter. This incident left me in shock! I did not know how to react or what to say. She responded to the situation by running her hands under water. Though the cut was minor, I advised her to place a Band-Aid on it. I was nervous because I recognized the danger of this unsafe situation. There was a possible risk of HIV exposure. These last weeks have been eye-opening to me in terms of the impact of the environment on these people . . . and my own fear.

Students began to understand that their daily norms and expectations were far different than those with whom they interacted.

## **Discussion**

The use of structured reflections in promoting personal growth, self-efficacy, and community self-efficacy was examined in 65 junior-level occupational therapy students. Results indicated that students writing structured reflections significantly increased in quantitative measures of personal growth and personal self-efficacy, whereas those using non-structured reflections showed no change. Change results may be attributed to students’ intentional focus on their reactions, plans to improve their performance, and feedback from instructors who probed for deeper clarification of personal values and assumptions.

Although both groups significantly improved in community self-efficacy scores, the use of structured reflections did not affect these outcomes on standardized test. These findings suggest that the direct community experience along with peer debriefings, group-based verbal reflections, and a final cumulative written reflection may have been sufficient for students to sense an impact on the community. Rubrics indicated a more in-depth analysis of one’s role in community service that was not reflected in quantitative measures.

The mixed-method approach enabled triangulating quantitative data with qualitative themes to develop a deeper understanding of how personal understanding and community self-efficacy were interwoven in students’ experiences. Qualitative passages demonstrated how tacit assumptions were challenged and new insights gained throughout the process. These two modes of data collection collectively illustrated the value of structured reflections in promoting personal understanding through intentional thinking and self-analysis about one’s performance in the service learning experience.

## **Relation to Previous Research**

The findings support the contention of Meyers (2009) that quality service learning opportunities can enable personal transformation and growth. Qualitative themes

indicated that personal transformation occurred through challenging tacit assumptions and then creating new schemes of meaning, as proposed by Mezirow (2000). The assumptions they challenged included expectations about how populations behave (seniors with AD, parents of children with disabilities), the typical rights afforded most people (around health care, space to play), and systems that seemingly support population health and wellness (rigid assisted living routines, heightened school security). The tension or discord in self-reflection, as discussed by Dewey (1910), was apparent in students' passages describing their "shock" at unexpected sequences of events they experienced.

This study found that only *structured self-reflection with feedback* enabled significant gains in personal self-efficacy. This finding was encouraging because most students had previous volunteer experiences (92% in this study) prior to the course. The findings show promise for the role of experiential learning courses in meeting broader college-based outcomes for promoting personal development in college students in preparation for productive and independent lives. Finally, the study contributes to the development of systematic methods for documenting service learning outcomes by using both quantitative and qualitative outcome measures (Molee et al., 2010). The fact that CSSE improved in both groups without the use of reflections suggests that direct community experience (and reactions from the community), peer debriefing, and verbal reflections with the instructor were sufficient to increase students' perspectives that they could successfully affect the community.

### *Implications for Best Practices*

This study indicated that writing reflections and providing feedback on reflections were worthwhile pedagogical endeavors based on significant gains in personal self-efficacy and personal growth. Qualitative themes demonstrated the depth of introspection gained from the experiences. Findings from our study suggest that courses including objectives around personal growth include *structured written reflections* in the course organization. The ongoing written reflection process should include (a) guided reflection questions to help structure writing (may include plans for self-change), (b) reflections written after each community visit, (c) feedback from faculty provided before the next community visit, and (d) a final summative written reflection linked to course objectives.

### *Limitations*

This study was limited by a small sample size and therefore cannot be generalized to all service learning experiences. A variety of service learning experiences existed across groups, which may have affected group comparisons. Variations may also have existed in the depth of instructor feedback and the timeliness in which the feedback was delivered, which may have influenced personal growth for students. Furthermore, although efforts were made to promote trustworthiness of data analysis, only a sample of students verified themes that may not represent all student perspectives.

## Recommendations for Future Research

Future research may examine the types of instructor feedback that best promote reflection in students. Research should also examine the instructor and peer debriefing process that occurs during the service learning process and understand how these reflection methods affect students' outcomes. Future research may investigate the use of guided classroom discussion as a type of reflection that promote the understanding of social systems, where students are able to hear, learn from, and understand the experience of others. This process may enable students to understand, in a deep manner, how personal and social changes mutually occur and how all systems interact to affect communities and individuals served within these communities.

## Conclusion

The use of reflections in service learning allows students to engage with the community while analyzing their assumptions relative to the experiences they encounter. This study found the use of structured written reflections to significantly increase student's personal growth and personal self-efficacy. Students showed significant gains in community self-efficacy regardless of using structured or non-structured reflections.

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