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# Service-Learning with Young Students: Validating the Introduction of Service-Learning in Pre-service Teacher Education

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## Abstract

Founded on experience as a practitioner and teacher action-researcher in an elementary school setting, the author shares this study as a validation for introducing the methodology of service-learning in teacher preparation programs. Multiple methods were used in this action research to analyze the effects of participating in a service-learning experience on the self-efficacy for self-regulated learning of a class of third-grade music students as they participated in an intergenerational project—sharing music and writing with residents in a local nursing home.

The quantitative data included the results from the Children's Self-Efficacy Scale (Bandura, 2006) and progress rating scales administered by the teacher-researcher. These data were analyzed using independent samples t-tests and regression analyses. The qualitative data included observation and field notes, students' reflective journals, student and teacher interviews, classroom artifacts, and informal discussions with the homeroom teacher. Emergent coding of these qualitative data revealed recurring themes, and the results supported the findings of the quantitative analyses. The analyses revealed that the students who participated in the service-learning experience improved their self-efficacy ratings for self-regulated learning significantly more than the students who did not participate in the project. These findings provide support for teacher education programs to introduce their pre-service teachers to service-learning in order that they will be prepared to implement meaningful experiences in their future classrooms.

*KEY WORDS:* service-learning, self-efficacy, action research, teacher education

I was introduced to service-learning in a teacher education program several years ago. As a former elementary practitioner implementing service-learning in my classroom, I witnessed positive experiences when my third- and fourth-grade music students participated in service-learning (Arrington, 2010). General education students demonstrated more responsibility, engaged more enthusiastically in music activities, became more compassionate toward students with disabilities, and reflected more meaningfully on activities. Special education students engaged in more activities and became more comfortable in the music room setting. Seeing these results propelled me into conducting an action research project, allowing me to measure the outcomes of my students' participation in service-learning, document the results, and contribute to the literature in the field of teacher education. At the time of this study, I had opportunity

to conduct action research with a class of third-grade music students participating in an intergenerational service-learning project. In the United States, students in third grade are typically eight-years old at the beginning of the school year.

The purpose of sharing this research is to exhibit ways service-learning contributes to the self-efficacy beliefs of children, to demonstrate how this methodology can be beneficial to children in elementary classrooms, and to portray an exemplary model of service-learning after which practitioners and researchers can pattern as they implement this teaching/learning strategy with their elementary students. Additionally, the findings of this study will contribute to the field of teacher education by providing an awareness of the benefit of training pre-service teachers to be able to incorporate meaningful service-learning experiences in their future classrooms.

Thus, the practice of engaging elementary students in service-learning is explored in this project with this research question: What are the effects of participating in a service-learning experience on the development of self-efficacy for self-regulated learning of students in classrooms?

Epstein (2007), an early childhood education specialist, reminds educators of major facets of children's development:

Young children must gain self-knowledge of their capabilities in broadening areas of function. They have to develop, appraise, and test their physical capabilities, their social competencies, their linguistic skills, and their cognitive skills for comprehending and managing the many situations they encounter daily. (p.73).

Starting in the early years, educators face a fundamental challenge of helping students be socially aware of others and the needs of their surrounding communities, thereby helping students develop into caring and productive citizens. Additionally, one of the basic goals of education is to equip students with self-regulatory skills that enable them to learn on their own, a highly desirable trait as they are progressing through their elementary grades. Earlier studies have shown a positive impact of experiential education on the development of self-esteem, self-concept, and self-efficacy in adolescents (Conrad & Hedin, 1982; Galati, 2004), and the conceptual framework of this study establishes service-learning as a teaching methodology that consistently produces outcomes leading to enhanced self-efficacy (Astin, Vogelgesang, Ikeda, & Yee, 2000; Eyler, 2009; Freeman & King, 2001).

## **Review of Related Literature**

### **Service-Learning**

Service-learning is not a novel idea. John Dewey's educational and social philosophy described in *Experience and Education* (Dewey, 1938) includes many of the key concepts of service-learning as outlined by Howard (2001): (a) Experience is necessary for learning; (b) Learning is for the purpose of some end beyond itself; (c) Thinking and acting are connected by reflection; and (d) Democracy requires active participation by an engaged citizenry. Reflecting these concepts, President Kennedy's famous words from his inaugural address of 1961 (U.S. Congress, 1989),

“... ask not what you can do for yourself, but ask what you can do for your country,” provided a notion which re-emerged four decades later in the education realm as service-learning. In 1990, President George Bush signed into law *The National Community Service Act*, and on April 21, 2009, Public Law 111-13 was enacted, *The Edward M. Kennedy Serve America Act*. These laws have provided money and encouragement for young people to serve their communities and schools. As a result of these influential acts, many high schools and universities in the United States require a service credit for graduation.

Service-learning experts (Clayton, Bringle, & Hatcher, 2013; Conrad & Hedin, 1982; Eyler & Giles, 1997) concur with Weatherford, Owens, Weatherford, and Fisk (2003) as they assert that service-learning “has the potential to help students grow and develop personally in several areas” (p.138). Hunter and Brisbin (2000) and a longitudinal study conducted by the Higher Education Research Institute (Astin et al, 2000) confirmed the same results: Students who participate in service-learning view their experiences in a positive manner, develop their academic skills, learn more about their community, and are more likely to seek out future service opportunities. Fitch, Steinke and Hudson (2013) add that participating in service-learning contributes to critical thinking.

Evidence indicates that service-learning is effective with young children. Contemporary service-learning practitioner, Swick (2001), cites the benefits of this type of service as engaging children in distinguishing self from others—an important process in developing empathy. He asserts that service-learning experiences promote social learning and socio-emotional development. Swick also notes that participating in the project approach leads to socially competent children who engage in fulfilling interactions and activities with adults and peers. Additionally, one of the expected outcomes of this approach, feelings, can be promoted as students have personal ownership in their project. Epstein (2007) reminds us that Piaget's concept of “decentering” is just beginning to develop in preschool years. Epstein states, “Because young children are more often on the receiving end of help, it is especially empowering for them to be able to give it” (Epstein, 2007, p. 73).

According to Bronfenbrenner's (1979) model of ecology of human development, human beings do not develop in isolation, but in relation to their

environment, or eco-systems: family and home, school, community, and society. Service-learning provides opportunity for social development through interactions in these various systems. Additionally, service-learning provides opportunity for students to participate in *curriculum for caring*. Bronfenbrenner notes that in this curriculum the purpose is not to learn *about* caring but to engage *in* it (p.53).

In support of service-learning in preservice teacher education, Weatherford and Owens (2000) state that: “. . . service-learning provides a hands-on opportunity for pre-service teacher educators to learn to value diversity and to appreciate the contributions and strengths of others . . .” The lessons learned from serving students who have different experiences from their own increase their future effectiveness as teachers while providing needed services for students and their families” (p.126). As a result, the communities served by the school are positively impacted.

The overarching definition of service-learning that guides this project is provided by Billig (2000), who defines service-learning as “a method under which students or participants learn and develop through active participation in thoughtfully organized service that is conducted in and meets the needs of a community, is coordinated with . . . school or community service program and with the community, helps foster civic responsibility, is integrated into and enhances academic curriculum . . . and provides structured time for the students or participants to reflect on the service experience” (p. 659). Additionally, the design of the project was based upon the *PARC* model (Billig, 2000; Weatherford & Owens, 2000): (a) *Preparation* (determining needs, planning and preparing for working with the targeted population), (b) *Action* (implementing the activities), (c) *Reflection* (critical reflection on outcomes and experience), and (d) *Celebration* (sharing the results).

### Service-Learning Contributing to Self-Efficacy

Self-efficacy affects a child’s function, decisions, and motivation to develop self-regulated learning. According to Bandura (1994), a person’s choice is affected by his/her self-efficacy. For example, people are more inclined to perform a task if they believe they can succeed and will avoid tasks in which they have low self-efficacy. Motivation is another area af-

ected by one’s self-efficacy, as is affirmed by Pajares (2005), Schunk (1991), and Zimmerman and Ringle (1981). Confirming the use of service-learning to increase young students’ self-efficacy are the results of a 2001 survey that the Wisconsin Department of Instruction conducted with elementary students involved in service-learning projects. The 1,071 returned surveys indicated that 76% of the students cited service-learning as contributing to their confidence, an important component of self-efficacy (Wisconsin, 2001).

Bandura’s (1994) social cognitive theory emphasizes the role of self-beliefs. This theory is the overarching theoretical framework for the self-efficacy construct (Bandura, 1994). This theory asserts that “cognitive development and functioning are embedded in social relations” (Bandura, 1997, p. 228). Bandura’s view is that individuals are self-organizing, pro-active, self-reflecting, and self-regulating. One of the components of this theory is that of *reciprocal determinism*, in which one’s behavior is constantly under reciprocal influence from cognitive and environmental influences. Additionally, three factors—personal, behavior, and environment—create interactions, a phenomenon referred to as *triadic reciprocity*. A service-learning experience in which students cooperate to plan and implement a project to meet a community need has potential to provide the necessary interactions to produce this triadic reciprocity, which may contribute to increased self-efficacy.

During the three months of this teacher-action research project, a class of third grade general music students shared music and writing with elderly residents, grandfriends, at a nearby nursing home. The service-learning experience in this study allowed students to operate within this social cognitive theory by encouraging students’ social relations as students planned activities and developed organization skills. Reflection, a key component of service-learning, was at the forefront of this project. Students reflected throughout the experience, further examining their self-beliefs as they completed their entries in their individual books, *My Service-Learning Journal* (Arrington, 2010). Relying upon quantitative and qualitative data, I was able to determine and understand whether the children made gains in efficacy through participating in the service-learning project.

## Method

### Participants

The students in this quasi-experimental study were third-grader students from two general education classrooms in a small urban elementary school in southeastern United States in a city of 25,514 with a median household income of \$27,716. There were 18 students in each class. Both classes were similar in demographics and achievement levels. Random assignment to classrooms was not feasible for the purposes of the study, but the two groups were similar in their demographics and achievement levels.

In the participant group, there were 18 students: ten male and eight female. There were seven Black, seven White, one White/Black, and three Hispanic. Four students were served in speech therapy; three were enrolled in the ESOL program. None of the students were enrolled in the academic gifted/talented program. Fourteen of the students qualified for the free/reduced lunch program.

In the comparison group, the demographics were similar to the participant group. There were 18 students: ten male and eight female. There were six black, seven white, two black/white, and three Hispanic students. Two students enrolled in speech therapy, one student participating in the academic gifted/talented program, and three students served in the ESOL program. Twelve of the students qualified for the free/reduced lunch program.

I was the music specialist at the school, and both classes participated in my 45-minute weekly music periods. Both classes also participated in the same grade-level curriculum and school activities throughout the duration of the three-month study.

The 18 students in the participant class took part in a service-learning project titled *RPMs Music Club—Roadrunners Partnering with Music and Service* (Roadrunner was the school mascot). This service experience was *direct* service, in which the students worked directly with the target population of residents at the nursing home (grandfriends). Our student and teacher-researcher interactions for the participants in the service-learning project in this study included twelve 45-minute, weekly music periods. The six visits/interactions occurred on alternating weeks with the regularly-scheduled music class to allow us adequate planning and reflection time during the process.

The 18 students in the comparison class partic-

ipated in regularly-planned music lessons during the twelve week period. They did not participate in a service-learning experience during the study.

### Research Design

I employed multiple methods in this teacher-action research project. Darbyshire, MacDougall, & Schiller (2005) provide a rationale for multiple methods:

. . . using multiple methods in researching children's experiences is a valuable approach that does not merely duplicate data but also offers complementary insights and understandings that may be difficult to access through reliance on a single method of data collection (p. 417).

“Action research is a research approach which focuses on simultaneous action and research in a collaborative manner” (Coghlan & Brannick, 2005, p. 13). It is research *in* action—not *about* action. Action research has dual focus—both on the inquiry process and the implementation process. “Action research can include all types of data gathering methods. Qualitative and quantitative tools, such as interview and surveys are commonly used” (p. 12). As teacher-researcher, I implemented the service-learning experience with my students. I also collected, analyzed, and interpreted the data. I used a quantitative and qualitative approach.

**Quantitative data collection.** I conducted pre- and post- measures of general self-efficacy using Children's Self-Efficacy Scale (Bandura, 2006). The scale consists of 55 items divided into the following domains: Efficacy in Enlisting Social Resources, Self-Efficacy for Academic Achievement, Self-Efficacy for Self-Regulated Learning (which is the focus in this study), Self-Efficacy for Leisure Time Skills and Extracurricular Activities, Self-Regulatory Efficacy, Self-Efficacy to Meet Others' Expectations, Social Self-Efficacy, Self-Assertive Efficacy, and Self-Efficacy for Enlisting Parental and Community Support. This scale was administered to both the participant and comparison groups.

In order to develop a rating scale based on the domain of Self-Efficacy for Self-Regulated Learning, I employed a panel of experts (school psychologist, guidance counselor, classroom teacher, doctoral candidate, and human growth and development specialist) to select items from the self-regulated learning

domain of the *Children's Self-Efficacy Scale* that were relevant to the third-grade participants, and which were applicable to this particular study. The resulting progress rating scale contained six statements, or constructs, of self-efficacy for self-regulated learning, as follows: (a) *I can finish my assignments by deadlines*, (b) *I can take good notes during class instruction*, (c) *I can use the library to get information for class assignments*, (d) *I can plan my schoolwork for the day*, (e) *I can organize my school work*, and (f) *I can get myself to do school work*. The ratings statements included the values 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 for rating their beliefs for being capable of doing the stated tasks. This standard methodology, just as with their pre-and post-service surveys, used the 100 point scale ranging in 10-unit intervals from “*Cannot do at all*” to “*Moderately certain can do*” (intermediate degrees of assurance) “*Highly certain can do.*” (to complete assurance). The rating scales were completed by the participants as part of the reflection process after each of their six visits, or interactions, with the residents of the nursing home.

I also asked participant students to examine their service-learning experience using a Likert scale to rate the following two belief statements based from *The Profile of Learning Through Service* (Weatherford, Owens, Weatherford, and Fisk, 2003): (a) *By participating in service-learning I can make a difference in my community* and (b) *By participating in service-learning I learn*

*from helping others*. The scale used for the belief statements ranged from one to four points: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Agree* and 4 = *Strongly Agree*. These statements also were rated after each of the six interactions.

Additionally, I conducted a linear regression analysis in which the mean of each progress rating statement was regressed on the service-learning score. This score was derived from the tally of activities—singing, playing, and writing—along with an average of the two belief statements.

The flow chart for the quantitative analysis is included in Figure 1, and the flow chart presents the procedure: students participated in their service-learning project activities (singing, playing instruments, or sharing writing), rated their two beliefs, and completed the progress rating scales of their self-efficacy for self-regulated learning. These scales were completed at the time of each reflection in *My Service-Learning Journal* (Arrington, 2010), a specially-designed booklet I created for the students (see Appendix A for *My Service-Learning Journal*). The students in the comparison group were not included in this part of the reflection data collection, as they did not have a service-learning experience on which to reflect.

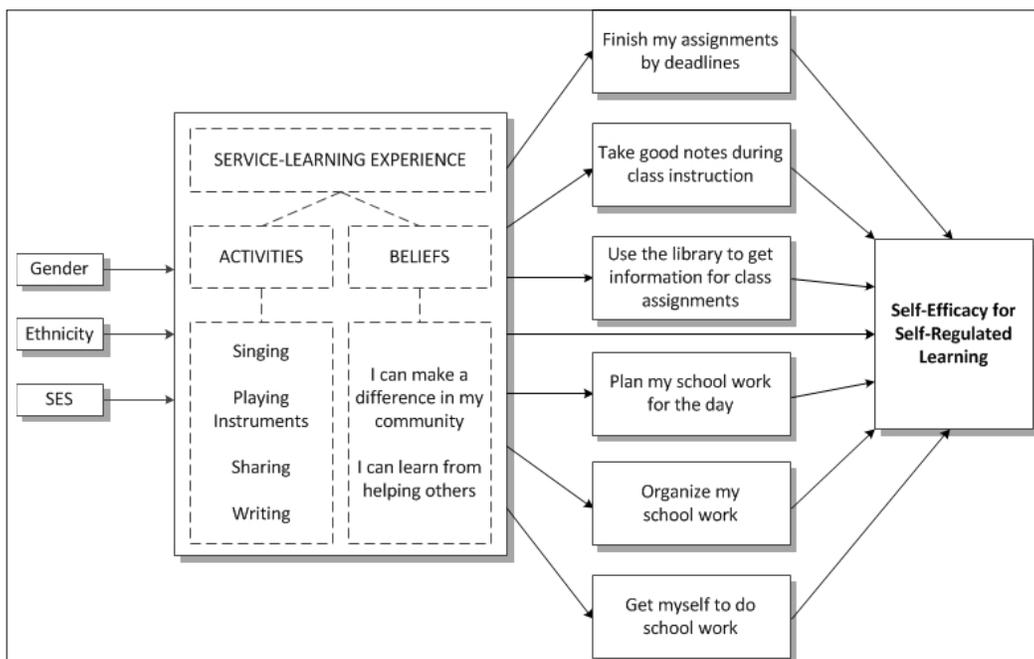


Figure 1. Flow Chart for Quantitative Data Analysis

**Qualitative Data Collection.** The qualitative data included my observation and field notes, students' reflective journals, student and teacher interviews, classroom artifacts, and informal discussions with the homeroom teacher. The participants' specially-designed booklet, *My Service-Learning Journal*, consisted of six sections, one for each visit. In addition to the quantitative rating scales and belief statements, there also were different prompts for each reflection. Some of the prompts included having students answer specific questions about their activity during that session, write a letter to a grandfriend, draw a picture, or write a descriptive paragraph about their activity. These assignments directly correlated with their third grade curriculum requirements. I coded these data and grouped them into recurring themes.

## Procedures

After securing the consent and minor assent forms for students to participate in the study, I administered *Children's Self-Efficacy Scale* (Bandura, 2006) to both groups prior to beginning the project. In the introductory session with the participant class for the project, I distributed a copy of *My Service-Learning Journal* to each student. On the outside cover, they wrote their code numbers instead of their names, and they were allowed to design their own unique cover. All data collected from the students included their code numbers.

As described in an earlier section alongside the definition of service-learning, this service-learning experience was designed using the PARC model—Preparation, Action, Reflection, and Celebration (Billig, 2000; Weatherford & Owens, 2000). The procedures are presented in the descriptions of the steps as used in this study:

1. Preparation: Our planning and preparation sessions occurred during their weekly music class and included selecting and learning songs to share with the residents of a nearby nursing home, creating instrumental accompaniments to teach to the residents, and selecting writing and other classroom work/projects to share with their grandfriends.

2. Action: The activities occurred during our service-learning project's five visits (interactions) to the nursing home, and one visit (interaction) by the grandfriends to the participant students' school for a total of six interactions in this study. The students were assigned various responsibilities for each trip,

such as carrying specific equipment, distributing/collecting specific items (e.g. instruments, gifts from our school). During their visits, the students shared the musical activities they had planned during the music class. They assisted the grandfriends as they participated in singing, performing hand motions, and playing instruments during the music activities. The third graders also visited with their grandfriends and shared their writing; some brought books or other class projects to share. One of the interactions included having the grandfriends attend the third graders' holiday performance at our school.

3. Reflection: After returning from each of the visits, I distributed their copies of *My Service-Learning Journal* to the students, and they used colored pencils to fill in the numbered blocks under each rating scale item. Additionally, for each session, the students followed the various prompts to complete the reflections, an important component for service-learning.

4. Celebration: In addition to completing the reflection prompts, celebration included creating a bulletin board in the hallway at our school to display pictures and artifacts from our project. Similarly, pictures which were displayed on a bulletin board at the nursing home. This sharing, or celebration, was also an integral element of the service-learning project.

Both classes participated in regularly-scheduled third-grade music classes as well as in the third-grade holiday performance during the project. I administered *Children's Self-Efficacy Scale* (Bandura, 2006), the post-measure of self-efficacy, to both groups at the conclusion of the project.

## Results

### Quantitative Results

Participants in the service-learning group had a general self-efficacy average ( $M = 89.34$ ;  $SD = 9.434$ ) which was significantly greater than that of the comparison group ( $M = .69.21$ ;  $SD = 13.681$ ):  $t(34) = -5.14$ ;  $p < .001$  (two-tailed). Similarly, participants in the service-learning group had an average on their ratings of self-efficacy for self-regulated learning ( $M = 86.67$ ;  $SD = 2.99$ ) which was significantly greater than that of the comparison group ( $M = 73.39$ ;  $SD = 23.682$ ):  $t(34) = -2.096$ ;  $p = .04$  (two-tailed). (See Table 1)

Based on the linear regression analysis of the principal component of service-learning on the mean rating of the six statements of self-efficacy for

**Table 1**  
Mean Ratings of the Participant and Comparison Groups

|       | n  | General Self-Efficacy |       |          |       | Self-Efficacy for Self-Regulated |       |          |       |
|-------|----|-----------------------|-------|----------|-------|----------------------------------|-------|----------|-------|
|       |    | Pretest               |       | Posttest |       | Pretest                          |       | Posttest |       |
|       |    | Mean                  | SD    | Mean     | SD    | Mean                             | SD    | Mean     | SD    |
| Part. | 18 | 74.52                 | 13.29 | 89.34    | 9.45  | 65.11                            | 22.73 | 86.67    | 12.70 |
| Comp. | 18 | 70.58                 | 16.57 | 69.21    | 13.68 | 77.17                            | 17.44 | 73.39    | 23.68 |

self-regulated learning, there was a significant effect (beyond the 5% level) of the principal component of service-learning on three of the six measured constructs, as follows: (a) *I can take good notes*:  $t(18) = 2.681$ ;  $p = .02$ , moderate positive correlation ( $R = .557$ ) between the two; (b) *I can use the library to get information for class assignments*:  $t(18) = 2.786$ ;

six also produced similar mean scores (83.32; 83.02). (See Figure 2)

The mean ratings of the belief statements for “I can make a difference in my community” across the six rating sessions were 3.31, 3.39, 3.09, 3.53, 3.59, and 3.63 consecutively; for “I can learn from helping others” they were 3.38, 3.25, 3.62, 3.32, 3.35, and

**Table 2**  
The Regression of the Principal Component of Service-Learning on the Mean Rating of the Six Statements of Self-efficacy for Self-regulated Learning.

| STATEMENT                  | R      | t(18)  | p    |
|----------------------------|--------|--------|------|
| Finish Assignments         | 0.305  | 1.281  | 0.22 |
| Take Good Notes            | 0.557  | 2.681  | 0.02 |
| Use Library                | 0.571  | 2.786  | 0.01 |
| Plan School Work           | 0.489  | 2.241  | 0.04 |
| Organize School Work       | -0.284 | -1.184 | 0.25 |
| Get Self to do School Work | 0.343  | 1.459  | 0.16 |

$p = .013$ , a moderate positive correlation ( $R = .571$ ) between the two; and (c) *I can plan my school work for the day*:  $t(18) = 2.241$ ;  $p = .04$ , a low positive correlation ( $R = .489$ ) between the two. (See Table 2)

The mean scores from the six ratings progressed throughout the project as follows: Rating One - 70.99; Rating Two - 73.06; Rating Three - 73.04; Rating Four-79.61; Rating Five -83.32, and Rating Six - 83.02. The largest increase in their self-efficacy for self-regulated learning (6.57 points) occurred between the third and fourth interaction. Rating sessions two and three rendered a similar mean score (73.06; 73.04); sessions five and

3.93. The students rated themselves higher on “learning from helping others” than on “making a difference” during rating sessions three and six. “I can

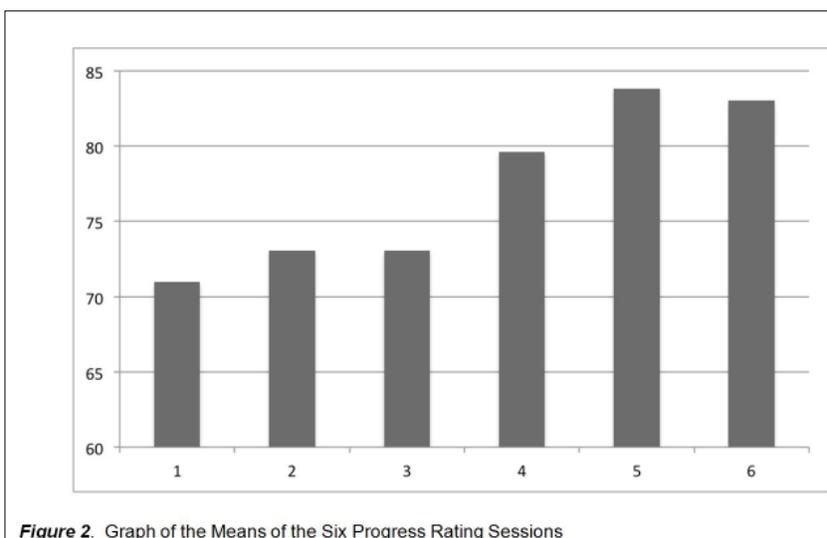
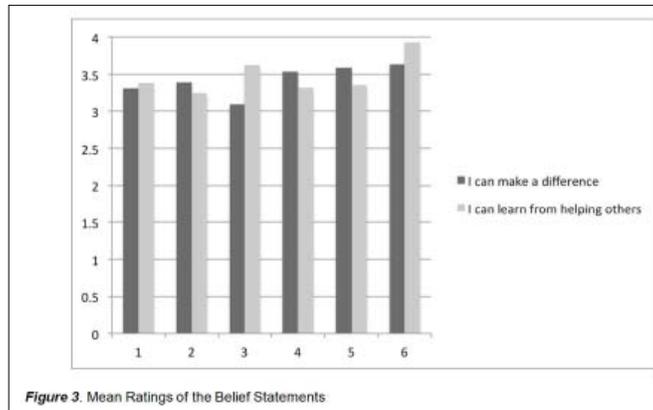


Figure 2. Graph of the Means of the Six Progress Rating Sessions

make a difference” was at its lowest rating after interaction three. The third interaction at the nursing home included their Christmas songs and activities. They had brought items such as scarves, throws, and handmade cards to distribute, which possibly contributed to a higher “helping” spirit (see Figure 3).



### Qualitative Results

I used emergent coding of qualitative data to reveal recurring themes derived from observation and field notes, students’ reflective journals, student and teacher interviews, classroom artifacts, and informal discussions with the homeroom teacher. The journal prompts for sessions one and five were similar regarding students’ feelings about meeting their grandfriends and sharing their activities. Reflection One was completed before the first interaction, and Reflection Five was completed after the fourth interaction. Less self-efficacious feelings such as “nervous” and “scared” appeared in the first session. The themes from the first question on Reflection One were:

(a) excited, (b) nervous, (c) happy, (d) scared, (e) good, (f) great, and (g) other comments. Figure 4 shows how three of the themes from question one in Reflection One—excited, nervous, and scared—disappeared, and one new theme—fun—emerged in Reflection Five. The number of students exhibiting the self-efficacious

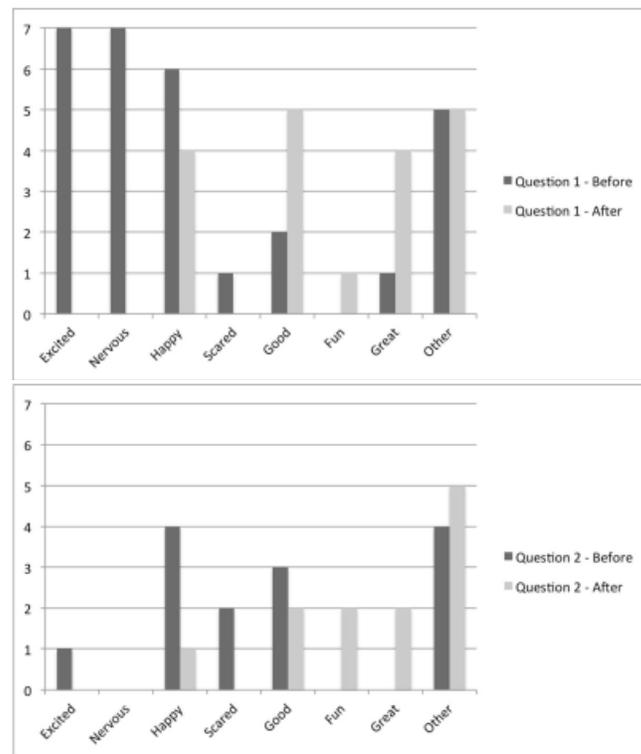


Figure 4. Graphs of the coded themes from Reflection 1 and Reflection 5

feelings of “good” and “great” increased, and the same number of students wrote various other comments as in the first question. Two new themes—fun and great—emerged in question two in Reflection Five, and one theme—scared—disappeared.

### Beginning Point.

Reflection One responses by the third graders to the first prompt, “Before you go to the nursing home, tell how you feel about meeting your new grandfriends,” included the following: “I’m excited to meet my new grandfriends,” “I will be happy because I will make them happy because they love children,” “I would feel like I can really help those people and so I want to meet them,” “I never met grandfriends in my life,” “I feel a little nervous. I feel that they may need more friends and be happy when they see what we do,” and “I feel shy because I was born like that.” One student wrote: “I feel very nervous and scared.” After several visits, this student’s response was, “I feel happy and glad.” The beginning reflection from the homeroom teacher included, “These are the laziest [students] I have ever taught.”

### Mid-Point.

Mid-point reflections from third graders included the following: “I am getting better at taking notes,” “I am not getting better at finishing my assignments,” “I love singing and writing for my grandfriends. I wrote a poem for Miss Aleen and she liked the poem,” “I felt good,” “I feel happy. They are nice,” “I feel that they love us and want to hug,” “I had fun visiting all

different kinds of grandfriends,” “I feel like a better person and they sing really good [sic] when we play,” “I was happy when I got to hand out presents [sic] to the people and sing songs fore [sic] the people we playD [sic] bells [sic],” and “I was singing and doing other stuff with my grandfriends. I had so much fun I wanted to stay.”

In the second reflection the student who had previously written he was shy, wrote, “I was feeling shy, but then I was feeling special.” In Reflection Five, after visiting several times, he responded “I feel wonderful about playing,” demonstrating more confidence and efficacy about the specific activities in the intervention. In a later reflection, he wrote, “I sing[sic] with a grandfriend and we saw pictures of us it was beautiful [sic].”

Another mid-point reflection came from the parent volunteer who accompanied the students on each trip. She stated, “I think the children are becoming more comfortable with their grandfriends.”

One of the reflections required students to draw and label a picture with descriptive words. This picture by Gray captures the sentiments felt by many of the students, the director, and the parent volunteer who accompanied us on our trips—“...they fluddered [sic] with excitement” (see Figure 5).

Another form of reflection was in letters written by the children and mailed to their grandfriends. One student wrote, “Last time when we came, some of ya’ll did not sing because ya’ll were too busy sleeping.” A great surprise came a few weeks later, when the grandfriends answered their letters—further contributing to the students’ self-efficacy and pride in what they were doing!

In her response to questions about the participant students’ self-regulated learning habits in her classroom to this point, the homeroom teacher noted:

About 25% of my students complete all their assignments, plan accordingly to complete their school work during the day, and have organized desks. The others rarely complete assignments, even projects on time. Their desks are continually the product of a tornado, and [the students] are constantly off task.

When asked about her expectations related to her students’ self-regulated learning, Miss Hill responded:

I would like to see my students actually attempt projects, turn them in on time, and develop organizational strategies. I would also like to see



Figure 5. Gray's Reflection 3 Picture

my students develop good note taking skills so they can have something to study at home.

**DeMario.** The classroom teacher had isolated DeMario, a Black male, in the classroom due to behavioral issues. In order to get him to cooperate, I allowed him to be a “helper” on our trips by assigning him responsibility to keep him busy and to motivate him to behave. Otherwise, he would not have been allowed to go with us.

I observed gains in most of the students as they participated in the service-learning project. DeMario, however, especially seemed to profit from an experience where he set goals for himself, met the goals, and then had more confidence in his ability to set goals for himself in school. For the first few sessions, DeMario rated himself zero on all the items. I spoke with his teacher, who seemed to think that he was just doing that to be aggravating. I decided to discuss this with him and his response was, “I am getting worse at everything.” When I spoke with him privately and asked him why he felt that way, he just shrugged his shoulders. He would not talk about it. Then, he drew a vampire on his sheet after writing that he was getting worse in everything. I related to his homeroom teacher and the school psychologist my concern that DeMario seemed to have very low self-esteem and that I was also concerned about his

hearing—I wasn't sure if he wasn't hearing well or if he was just good at "tuning out."

My most rewarding experience during the next session was my interaction with DeMario. I had a private conference with him about his zero ratings because I was afraid he didn't understand the task. He was isolated in his classroom, and I felt that this was contributing to his inattentiveness. He did not seem to care about his participation in the rating and reflections sessions. Taking my cue from Shunk (1991), who found that setting goals led to higher self-efficacy, skill, and motivation over those students who did not set goals, I encouraged DeMario to set a personal goal for the remainder of this project. I decided to do this since nothing else seemed to draw his attention to the task at hand, and I felt that perhaps this would motivate DeMario to at least try.

After discussing each of the items, I suggested that he might like to start with just one thing on which he thought he could improve his "I can" rating. He said, "organizing." I asked him where he thought he was right now and he said, "zero." I asked him where he would like to be and he said, "one hundred." I spoke with him about being realistic and asked if he thought that would be attainable. At that time, his "light bulb" illuminated. He said, "Oh, you mean that I can move up to a ten, and then later to a twenty, and then maybe up to forty, and so on?" I said, "Yes, that sounds very reasonable to me." He seemed ecstatic that he had figured it out. He had some papers on the floor around his desk, and I said, "Let's take a first step in your organizing." We looked down, and he began picking up his papers. When I left the classroom, he was beaming!

I visited Miss Hill's homeroom early the next morning. I noticed that DeMario had been moved to a location beside the teacher's desk and nearer to the front of the room. When I asked, "How's the organizing going?" He answered with a smile, "It's good. I've been cleaning out my desk."

In a later session, I conducted an interview with DeMario, as follows:

Researcher: What's your ID number?

DeMario: 106

Researcher: Okay, um...what's your favorite part about being in the RPMS club?

DeMario: Having fun, dancing, visiting my friends.

Researcher: Okay. And, I noticed when you were doing your ratings you started out with all zeros and the last time you, uh, had some different numbers on your paper. What are you thinking about?

DeMario: I'm improving on all of 'em.

Researcher: Okay. And which one do you think you're doing the best on so far?

DeMario: Getting myself to do my school work

Researcher: Okay. And, is there anything else that you want to say about what you're doing with these ratings?

DeMario: I'm like, um, when I was at zero and I started improving and then I went up on all of 'em and I just felt like I should keep trying to reach 100—my goal.

Researcher: All right. Thank you

DeMario: You should always fight for your goal . . .

Researcher: (unintentionally interrupting his statement) Oh, all right. Thank you very much.

DeMario: . . . And you'll sooner or later reach it.

Researcher: Okay...anything else you want to say before I stop this?

DeMario: No.

Researcher: Thank you.

The mid-point reflection from their homeroom teacher included, "At least he (DeMario) is having more good days."

**End-Point.** A final reflection from one third grader included:

I like coming and surprising you, seeing the birds in their cage and seeing new faces. I was so happy that you came to our school. You danced and we went around and shook your hands. I'm glad you came. You really made my day.

Other students penned the following: "I like to come here to the nursing home. I like to meet the people here and it is more fun when we sing, dance, and play instruments. We just love it here," "I love singing and writing for my grandfriends. I wrote a poem for Miss Aleen and she liked the poem," and "I enjoyed singing and playing instruments [sic], reading, writing."

Another mid-point reflection included:

The last time you came you saw us in a show. It was Friday. We enjoyed having you here. I hope you can come back to our school and see us

again. Can you come at the end of the school year so we can tell you goodbye? I will miss you.

The director took the children into the hallway on their fourth visit to point out the bulletin board she had made of their letters and pictures they had sent to the grandfriends. She spoke to the children about how much they had meant to the grandfriends. With tears in her eyes, she conveyed uplifting news to the children:

I want you to know what you mean to these residents and how much they love you. . . . Mr. James is one of our new male residents. We've not been able to get him to participate in any activities since he's been here, but today he was smiling, clapping his hands and singing.

**Other Emerging Themes.** One of the other themes that emerged was helping others. Some of the student responses included: "I felt like an angel with a warm feeling inside and I felt great," "I felt special to help people. I like making them happy," "I learned to help others. Some people need help taking care of themselves," and "When I grow up I am going to work at the nursing home. It will be really fun and I will do everything for you."

The theme of *love* that emerged was two-fold: love emanating from the students toward the residents and from the students toward their experiences during the service-learning project; and love emanating from the residents toward the students and their experiences during the project. The children spoke often of loving their grandfriends and wrote in their journals about loving their grandfriends. Some other responses included: "I love your clothes. I love your hair," "I loved meeting the grandfriends," and "I love this club. It meant a lot to me."

The residents responded with smiles, laughing, and with uninhibited participation in the activities. They hugged the children and begged them to stay. One of the third grade boys, with a sheepish grin, boarded the bus after one visit, and told of his grandfriend's reaction: "She kissed me on the neck three times!"

Responses from the grandfriends also began to resonate their love during the activities, including: "I love that song, I love these children, and I love my country," "I don't know if you noticed it or not, but these children swarm on me like flies when they come."

The final reflections from the homeroom teacher

included the following:

. . . My students have started showing greater concern towards one another. They help one another when falling, scold others when name calling occurs, and encourage others to try their best. This is a giant step in the right direction from the days in August when they constantly found each other's flaws and tormented others by flaunting others' flaws. Seeing these elderly, helping them, and feeling their love has helped these children and their character grow . . . The class has learned to encourage each other rather than tear each other down (with a few exceptions). For the most part, they have developed [sic] more compassion, honesty, and integrity.

When asked to specifically address her students' self-regulated learning, the homeroom teacher added the following:

The children have become more self directive [sic] with their school work. They are beginning to self reflect [sic] and build better study habits. Perhaps this is a direct result in their increase in self esteem [sic] from working with the elderly . . .

Finally, I performed a comparison of the data in order to increase the confidence of the results. Qualitative results overall supported the findings from the quantitative analyses. The variables considered in this triangulation included the results from the general self-efficacy scale and the self-efficacy for self-regulated learning items. The two other emergent themes that surfaced were also included. The variable scores were compared with the qualitative data, which included responses by the students, homeroom teacher, teacher-researcher, parent volunteer, and activity director from the nursing home. All of the qualitative responses supported increased general self-efficacy. The responses by the student, homeroom teacher, and teacher-researcher supported self-regulated learning overall, and the specific items related to finishing assignments, taking good notes, using library, planning school work. The homeroom teacher's responses were the only ones that did not confirm students' completion of assignments by deadlines. The students' responses did not confirm their organization. Neither the students nor the homeroom teacher confirmed students getting themselves to do their work. This triangulation of data is presented in Table 3.

**Table 3**  
Triangulation of Quantitative (QUAN) and Qualitative (qual) Data

| Variables                                                | QUAN         |              | qual             |                            |                             |                           |                            |
|----------------------------------------------------------|--------------|--------------|------------------|----------------------------|-----------------------------|---------------------------|----------------------------|
|                                                          | Significance | Correlation  | Student Response | Home-room Teacher Response | Teacher-Researcher Response | Parent Volunteer Response | Activity Director Response |
| General Self-Efficacy                                    | p < .001     |              |                  |                            |                             |                           |                            |
| Self-Efficacy for Self- Regulated Learning               | p = .04      |              |                  |                            |                             |                           |                            |
| Finish my assignments by deadline                        | p = .218     | R = .305     | ✓                | X                          | ✓                           | n/a                       | n/a                        |
| Take good notes during class instruction                 | p = .016     | R = .557     | ✓                | ✓                          | ✓                           | n/a                       | n/a                        |
| Use the library to get information for class assignments | p = .013     | R = .571     | ✓                | ✓                          | ✓                           | n/a                       | n/a                        |
| Plan my school work for the day                          | p = .04      | R = .489     | ✓                | ✓                          | ✓                           | n/a                       | n/a                        |
| Organize my school work                                  | p = .254     | R = .284     | X                | ✓                          | ✓                           | n/a                       | n/a                        |
| Get myself to do school work                             | p = .164     | R = .343     | X                | X                          | ✓                           | n/a                       | n/a                        |
| Other finding: Helping others                            |              | Not measured | E                | E                          | E                           | E                         | E                          |
| Other finding: Love                                      |              | Not measured | E                | E                          | E                           | E                         | E                          |

*Note:* The qualitative data that corroborates the quantitative results are indicated with a check (✓). The qualitative data that does not corroborate the quantitative results are indicated with an X. The themes in other findings were discovered in qualitative data only through emergent coding, and are indicated with an E. The parent volunteer and activity director did not observe the students in their general classroom. Therefore, it was not appropriate for them to respond to questions regarding the self-regulated learning statements. This is indicated with n/a.

### Discussion

Adding to the literature base (e.g., Astin et al., 2000; Eyler, 2009; Freeman & King, 2001; Galati, 2004; Swick, 2001; Weatherford et al., 2003), this study revealed that service-learning has proven to be an effective methodology for educators to use in order to improve students' general self-efficacy. Additionally, this study demonstrated that participating in a service-learning experience contributed to an increase in the participating third graders' self-efficacy for self-regulated learning. Consistent with other service-learning projects (Galati, 2004; RMC Research Corporation, 2007), the findings confirm that students participating in service-learning improve in their academic skills. The students' responses to journal prompts and interview questions confirmed the quantitative results.

The precipitation of the three relationships in the concept of *triadic reciprocity* (Bandura, 1997) is demonstrated through this service-learning project, further contributing to the students' self-efficacy. *Creating classroom experiences which improve their students'*

*emotional states* (personal factors) was evident as students selected their favorite music and writing activities to share. *Improving academic skills and self-regulatory habits* (behavior) was exhibited as students reflected on their own skills and habits through a variety of journal reflection prompts. Finally, *altering classroom structure to contribute to their success* (environment) occurred as I provided a field trip opportunity for students to leave their own classroom and perform in another environment.

Self-esteem and self-efficacy are directly related. Self-esteem is a feeling of self-worth, and self-efficacy is truly knowing what one can do because that individual has made an effort, experienced success, and developed inner pride because of the accomplishment (Bandura, 1997; Carrera, 1999; Conrad & Hedin, 1982; Thomsen, 2006). The students became more confident in sharing their singing, playing instruments and writing skills with others as was evident in their actions, along with their responses to open-ended questions, interviews and journal prompts. This self-assurance was corroborated by the

responses from the classroom teacher, my field notes, activities director, and the parent-volunteer. Implications are for practitioners to encourage students to share their talents and skills with others.

The students were motivated in this study due to their opportunity to have a voice in the project. As is an inherent strength in the process of service-learning, the students contributed to the planning and preparation of the executed activities they deemed important for their visits with the grandfriends. This ownership in the project contributed to their self-efficacy, consistent with findings by Zimmerman, Bandura, and Martinez-Pons (1992). The students' pride for making decisions was evident from their journal responses and their eagerness to begin planning for their next interaction as soon as they returned from a visit. Further evidence indicated this motivation when, without a prompt from a teacher, several students brought their library books and/or their fossils from a science project to share with their grandfriends. This may have been the contributing factor to the homeroom teacher's ending remarks that "the children had become more self-directed, perhaps as a result of this project."

The service-learning project with the residents of the nursing home likely was not the only source of learning experiences that year that contributed to the children's growth in self-efficacy. Students could have had other learning experiences that contributed also to the gains observed. For example, they could have improved in using the library through their weekly lessons in the library with the media specialist, and they could have been motivated because they were going to get to go on a field trip. However, the service-learning experience contributed in substantial ways as shown by the comparisons with the children whose learning experiences were similar except for the service-learning experience. Additionally, students may have experienced gains in self-efficacy in part because of the documented therapeutic and motivational benefits of music for children (Britan, 1908; Carr, 2004; Crncec, Wilson & Prior, 2006; Hallam, 2010). One girl said, "I feel like singing is good for my heart!" According to Bandura's (1994) theory, the way music is shared with students matters. In this service-learning project, music was experienced in ways that were rewarding for the children—they selected their favorite songs and instruments, and were eager to share their newly-learned music skills.

### Limitations

Although the two classes were similar in their demographic information, the selection of classes was convenience-based due to my teaching/planning schedule. I did not administer the intermittent rating scales to the comparison group. This may have affected the outcomes inasmuch as the participant students had repeatedly completed the scales throughout the study. Therefore, I recommend collecting data from the rating scales throughout the study from both groups in a replication of this study.

The findings of this study are specific to the context in which it was conducted—one elementary school with results particular for those students participating in the study. Therefore, it is important for future research to consider other programs and contexts. Despite the obvious limitations due to examining students in only one school, this study helps inform classroom teachers and future researchers.

### Conclusions and Recommendations

The results from this project confirmed what I had previously observed after being introduced to service-learning in a teacher education course several years ago: service-learning is a valuable methodology to use in an elementary classroom. The findings of the study provide support for teacher education programs to introduce their pre-service teachers to service-learning so that they will be prepared to implement meaningful experiences to benefit students in their future classrooms. As a university professor in a teacher education program, I am introducing my pre-service teachers to service-learning and allowing them to implement projects during their field experience. This training in service-learning has potential to provide a valuable experience for these teacher candidates, as determined in a recent pilot project with pre-service teachers in an introductory curriculum course (Arrington, 2013). I recommend conducting additional studies within teacher education programs to address how pre-service teachers can learn to effectively incorporate service-learning with their students.

This study portrays an example of how service learning can be implemented effectively in classrooms, thereby providing a model for practitioners and researchers as they implement this teaching/learning strategy with their elementary students. I recommend that teacher education programs take

advantage of this methodology and encourage their preservice teachers to implement service-learning experiences that are well-planned and reflection-enriched, two crucial components of the process. My hope is that other teachers and their students experience similar positive results (Arrington, 2010).

#### Author Note

This article is based on action research conducted by Nancy McBride Arrington as a doctoral student at Clemson University. At the time of the study, Mrs. Arrington was an elementary music specialist in a public school system. Dr. Arrington is currently an Assistant Professor in the Department of Teaching and Learning at Georgia Southern University.

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