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Improving Preservice Teachers' Self-Efficacy through Service Learning: Lessons Learned

Carianne Bernadowski
PhD, Robert Morris University, USA *bernadowski@rmu.edu*
Ronald Perry
PhD, Robert Morris University, USA *perry@rmu.edu*
Robert Del Greco,
EdD**,** Robert Morris University, USA *delgreco@rmu.edu*

University students have been barraged with service learning opportunities both as course required and as volunteer opportunities in recent years. Currently, many universities now require students to participate in engaged learning as a graduation requirement. Situated in Bandura's theory of self-efficacy, this study examines the effects service learning has on students teaching self-efficacy when required to participate in an activity (course connected), compared to when they chose to volunteer in service learning projects. As instructors of preservice teachers it is our commitment to prepare these students to their maximum potential. Identifying best practices for teacher preparation is an overarching goal of this study. A pre/post survey examined students' self-perceptions for each service opportunity in regards to their perceived teaching self-efficacy. Results indicate that students' self-efficacy improved when service learning was connected or imbedded in the context of learning and connected to a specific course. These findings indicate course connected service learning has a greater impact on preservice teachers' perceptions of their ability to be effective future classroom teachers. Therefore course connected service learning can be viewed as a best practice in preservice teaching instruction.

Key Words: Self-efficacy, Service Learning, Preservice Teachers, Student Engagement, Lessons Learned

INTRODUCTION

Field-based learning is an essential and valuable component of any teacher education program. Preservice elementary teachers should be engaged in practicum and field work early and often. The degree to which students are required to work in the field varies significantly between institutions of higher education. Learners' "know how," specifically in education, can be enhanced and extended through service learning opportunities. Most recently, universities across the country have integrated service

learning into their curriculum to enhance learners' experiences both for professional and personal reasons, to meet accreditation standards, and to increases retention and recruitment goals. Student engagement is the greatest predictor of retention and cognitive and personal development in college students (Belcheir, 2000). Service learning situates course concepts and objectives in the context of authentic situations. The purpose of this research is to compare preservice teachers' engagement in approved volunteer professional activities and opportunities classified as service learning (managed choice) versus opportunities connected directly to course work (course connected), and what effect it has on university students' teaching self-efficacy. In this research *managed choice* refers to any approved service learning opportunities that students chose to do for their own personal and professional growth. Managed choice provides ample opportunities for students to engage in a variety of ways and contents to enhance their teaching repertoire. *Course connected* service learning is any service opportunity that was a requirement of the course and mandatory per the instructor. Service learning is one in which the field experience is built directly into the course requirements and outcomes Does course connected service learning better prepare students and help them understand the factors impacting student achievement? If this is true, then knowing this will help instructors of preservice teachers better prepare future teachers to deal with all types of situations in their classroom.

LITERATURE REVIEW

Ben-Peretz (1995) reported that field experience is viewed as the most critical factor in the development of teaching skills. Field experience, at many universities, precedes student teaching and varies in the extent to which students are immersed in the classroom. Review of professional education standards reveals that teachers must be prepared in three domains; knowledge, disposition, and performance. Universities, both in the U.S and abroad, must prepare students with the content knowledge to teach children of diverse and varying backgrounds at multiple grade levels. Furthermore, universities must ensure students are caring individuals who hold values true to their students, and skills to be able to teach children what is needed to be viable citizens in an every changing global world. These goals can be met, in many cases, through a multitude of service learning opportunities at the university level. Educators know that student teaching alone does not fully prepare preservice teachers for the onslaught of student teaching. Tang (2003) found that quality field-based experiences depended on the ability of student and preservice teachers to be able to cross reference what is learned and realize applicability in the field with what is learned in the classroom. The idea of early field experiences lends itself to the current field of service learning.

As early as 1979, Sigmon described service learning as a plausible means for students to learn about their community while connecting academic content. Service learning is "any carefully monitored service experience in which a student has intentional learning goals and reflects actively on what he or she is learning throughout the experience" (National Society for Experiential Education, 1994). By providing students with multiple service learning opportunities, students have the choice to engage in service sites that extend course content and "provide(s) an additional means for reaching

educational objectives" (Bringle & Hatcher, 1992, p.2). Furthermore, service learning provides students with sufficient time for reflection, serve community needs, and benefit both those providing the service and those receiving the service. It has the potential to combine community service with academic learning, and, ultimately, students in growing and extending their personal and professional knowledge base. It is through a quality service learning opportunity that students become reflective practitioners whose dispositions are that of caring, sensitive individuals. Ryan & Callahan (2002) deduce that service learning gracefully marries community service and field experiences and "offers learning opportunities that link academics to the service, so that both the students and the community benefit" (p. 128).

Service learning opportunities can potentially aid preservice teachers in becoming reflective practitioners, problem solvers, and partners in school/community collaborative relationships. Service learning has the probability to help students realize the challenges of communities in which they go to school, student teach, and eventually, live and work. Through effective service learning opportunities students find themselves becoming community advocates who possess improved self-esteem, self-efficacy, and a growing social awareness. A growing body of research indicates that carefully planned and implemented service-learning projects can contribute positively to both K-12 students' and preservice teachers' content knowledge and professional growth (Conrad & Hedin, 1991; Root, 1997).

Course Connected: Curriculum Opportunities

Service learning provides students and instructors with additional means for reaching course objectives while applying content in community or school settings. In a teacher education program it is much more effective to require students to apply course objectives in real life contexts and make relevant theoretical concepts, pedagogical techniques, and methodology concrete as opposed to the abstract concepts found in textbooks. "Service-learning offers powerful opportunities to acquire the habits of critical thinking; i.e. the ability to identify the most important questions or issues within a real-world situation" (http://www.servicelearning.org). Course connected service learning is data-driven based on students' prior knowledge, connects theory to practice, and is personal in nature. Root and Batchelder (1994) concluded that preservice teachers who completed a service-learning class made significant gains in the complexity of their thinking about a social problem of childhood. Additionally, Seigel (1995) found that teacher education students who completed a community service experience increased their sensitivity to diversity issues and became more insightful about their own responsiveness to diverse students.

In an elementary education program, service learning "exemplified reciprocal benefits in which preservice teachers increase their understanding of being a teacher, while members of the community benefit from the efforts of the preservice teachers" (Buchanan, Baldwin, & Rudisill, 2002, p. 30). Furthermore, "Faculty who use service learning discover that it brings new life to the classroom, enhances performance on traditional measures of learning, increases student interest in the subject, teaches new problem solving skills, and makes teaching more enjoyable" (Bringle & Hatcher, 1996,

p. 2). Markus, Howard, and King (1993) found that students who enrolled in service learning courses had more positive course evaluations and higher achievement on midterm and final examinations.

Courses that offer service learning projects and assignments can facilitate students' understanding of content in the real world, in real classrooms, with real children. The textbook comes to life and students can visualize the applicability play out in the real world. "It is essential that preservice programs address the need to produce elementary teachers who possess strong pedagogical content knowledge" (McDonnough & Matkins, 2010, p. 14). The strengthening of the content can easily be accomplished by working in school or community settings where students interface with children on a myriad of skills and implement a variety of strategies. Service-learning particularly benefits students when conducted as part of an academic course that includes reflection of some type (Vogelgesang et al. 2002). Within a required course, students are prepared and armed with learning strategies via individualized scaffolding by the course instructor. The students are carefully "set-up" for success to promote or maximize their growth in self-efficacy. Then, within the course setting, reflections on these experiences can be dissected and analyzed for reasons of success or problems while using those reflections as valuable learning experiences.

Managed Choice: Volunteer Opportunities

Astin & Sax (1998, 2004) found that service-learning is beneficial for college students both in the short and the long term. Students who voluntarily participate in service-learning projects may reap many benefits including enhanced personal skills, community awareness, and a strong motivation to learn (Eyler & Giles, 1999). "Service learning programs involve students in organized community service that addresses local needs while developing the students' academic skills and community commitment" (Heiselt & Wolverton, 2009, p. 2). Service learning at the university involves students in closely monitored activities that address local needs while developing the students' academic skills, applying content from university classes, and satisfying a need of the local community. "As the students participate in the service experience, it is through service-learning that they are provided with an opportunity to connect their service with what they are learning in the classroom" (Heiselt & Wolverton, 2009, p. 2).

Managed choice affords students the opportunity to choose service learning opportunities that fit their needs as viewed by the students themselves. Students are offered a "menu" of opportunities and decide for which opportunities they want to dedicate their time. In fact, Rhoades (1997) illustrates that the act of giving service is a social experience, and through that experience, students formulate and shape their identities both professionally and personally on many levels. Sullivan (1991) found that preservice teachers who had completed community service internships had a great degree of success in their student teaching experience, noting specifically ease in planning activities, communicating with parents, and using the interpersonal skills necessary to deal effectively with adolescents. Likewise, Wade (1995) found an increase in preservice teachers' positive attitudes about community participation, and

gains in self-esteem and self-efficacy. Sigmon (1994) emphasizes that service and learning goals should be of equal weight and that each should enhance the other for all participants. Ultimately, managed choice, giving students carefully monitored options in their service learning opportunities, is designed to provide an enriched learning experience for students by increasing and expanding their theoretical and pedagogical learning into practical experiences. These practical experiences strive to be meaningful service projects in the local community (Herther, 2008).

It is through both managed choice and course connected service learning that students can increase their knowledge base, skill-set, and self-efficacy.

Self-Efficacy

Self-efficacy can be simply defined as an individual's belief in his or own competence. According to Bandura (1997), "perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p.3).

The study of self-efficacy, and the actions or inactions resulting from one's sense of self-efficacy, dates back to late 1970's and the work of psychologist, Albert Bandura. As part of his body of work with social cognitive theory Bandura identified self-efficacy as a key behavioral mechanism underlying human behavior. He identified self-efficacy as one of the critical factors motivating people to engage in pursuing their goals. The development of self-efficacy, then, is tied to the concept of empowerment, and the idea of taking control of one's life, or being the master of one's own destiny.

Since Bandura's original work with self-efficacy and its central role in social cognitive theory, self-efficacy has emerged as a highly effective predictor of students' motivation and learning (Zimmerman, 2000). Relating this concept to education majors, and more specifically, to students in training to become our future classroom teachers, self-efficacy can serve as a key indicator of the success or failure of a preservice teacher.

Bandura (1997) states that there are four sources that influence self-efficacy. They are:

1. Enactive Mastery Experiences
2. Vicarious Experiences
3. Verbal Persuasion
4. Physiological and Affective States

Mastery experiences are deemed to have the most influence on self-efficacy as they provide the most authentic evidence of one's potential to succeed. Vicarious experiences are those experiences in which an individual observes the performance of others who are believed to have comparable capabilities (Cone, 2009). Verbal, or social, persuasion involves the meaningful feedback, whether positive or negative, that an individual receives from significant others. Physiological and affective states refer to those physical and emotional responses experienced due to stress, fear, and/or anxiety.

Within the context of teacher education programs, mastery experiences are those experiences providing preservice teachers with authentic teaching opportunities as in the course connected service learning opportunities. As noted by Bandura (1997), "Successes build a robust belief in one's personal efficacy. Failures undermine it, especially if failures occur before a sense of efficacy is firmly established" (p.80). Hence, the importance of providing authentic teaching experiences to preservice teachers is at the core of this perspective.

Vicarious experiences also influence the development of self-efficacy. A common and effective teaching strategy in and of itself, modeling, provides another opportunity for preservice teachers to learn and grow. Whether observing their instructor model a sample lesson or a specific teaching strategy, or a fellow classmate demonstrating the same, a preservice teacher's sense of self-efficacy is impacted by this vicarious experience. The third source of influence is verbal persuasion. Stated simply, verbal/social persuasion involves those situations in which an individual receives either positive or negative feedback. For example, a preservice teacher who is struggling with a particular issue such as classroom management may be pulled from the throes of despair, if a respected professor or mentor teacher conveys the confidence they have in the preservice teacher's overall capabilities. Conversely, raising unrealistic beliefs of a young teacher's capabilities, or providing harsh, insensitive feedback, can promote a sense of failure and negatively affect preservice teachers' self-efficacy.

Physiological and affective states, i.e. physical and emotional states, complete Bandura's list of four sources influencing self-efficacy. Physiological and affective states refer to the somatic indicators that people rely upon as they make judgments about their capabilities. In other words, individuals tend to tie their self-efficacy beliefs to the biofeedback they receive as they dwell on any given situation. In particular physiological and affective states are based upon responses to stress fear, and anxiety (Cone, 2009, p.21).

As Bandura (1997) stated, "People fear and tend to avoid threatening situations they believe exceed their coping skills, whereas they get involved in activities and behave assuredly when they judge themselves capable of handling situations that would otherwise be intimidating" (p.194). Bandura's theoretical framework of self-efficacy suggests that efficacy beliefs may be most malleable early in learning. Thus, the first few years of teacher development could be critical to the long-term development of teaching efficacy (Hoy, 2004). This rings true as noted by Swars, Smith, Smith, and Hart (2006) who observed "once teaching efficacy beliefs are established, they are highly resistant to change (p.2)."

So, according to Bandura (1997, pp.106,107) the fourth major way of altering efficacy beliefs is to enhance physical status, reduce stress levels and negative emotional proclivities, and correct misinterpretations of bodily states (Bandura ,1991a, Cioffi, 1991a). With this in mind, this study chose to measure preservice teachers' self-efficacy beliefs using two of Bandura's self-efficacy sources, Mastery Experiences and Physiological and Emotional States.

DESIGN

This study utilized survey research because of its ability to successfully "obtain(ing) individuals' opinions relatively effectively, accurately, and cost effectively" (Huer & Saenz, 2003, p. 212). A survey, developed by the researchers, was piloted and beta-tested one year prior to the present study. The instrument was administered to a random group of fifty students in an effort to find potential problems. Once the problems, as identified by the researchers, were addressed, the survey was then reviewed by professionals in the field of survey research design. The problems or inconsistencies dealt with the lack of focus in questioning and misalignment with Bandura's categories of self efficacy. This study was designed to examine the self-efficacy of pre-service teachers as they engaged in teaching situations presented as course requirement (course connected) and situations selected by pre-service teachers that are self-selected (managed choice) situated in Bandura's work in self-efficacy. Service learning opportunities have been shown to increase self-efficacy through the application of content knowledge, lesson design and implementation and assessment of student learning. Using Bandura's Mastery Experiences and Physiological and Emotional States, the study examined if *choice* of service learning projects affected students' teaching self-efficacy. Two service learning projects (managed choice) were made available to all education majors at a small university in western Pennsylvania; Junior Achievement and Science Fun Day.

The first was an opportunity to deliver the Junior Achievement curriculum to a single grade level of students at a local elementary school. Junior Achievement is a non-profit corporation that developed a kindergarten through twelfth grade curriculum designed to "inspire and prepare young people to succeed in a global economy" [http://www.ja.org/about/about_news_fact.shtml]. In partnership with businesses and educators, Junior Achievement brings the real world to students, opening their minds to their potential. Junior Achievement uses hands on experiences to help school children understand the economics of life. The elementary program is a sequentially developed economic and business curriculum, focusing on families and community in the primary grades, and the region, nation, and global marketplace in the intermediate grades. The program promotes an understanding of, and an appreciation for, the roles and responsibilities of all members of society, as they relate to their respective economics.

Students were required to attend a brief training session where their duties and responsibilities were assigned and explained by the Junior Achievement representative. Each student and in many cases, pairs of students, were assigned to develop lesson plans for their assigned grade level. They taught elementary students for the full school

day. Junior Achievement provided considerable written resource materials for the preservice teachers, and it was their task to deliver the lessons in an interactive and engaging manner. Preservice teachers were required to teach the content, manage the class, and conduct all duties of the classroom teacher.

The second managed choice service learning opportunity was a Science Fun Day to be presented to the same students at the local elementary school. The Science Fun Day was designed for university students to present science inquiry activities to the kindergarten through eighth grade. The preservice teachers were invited to attend a Science Fun Day preparation workshop. Eight science inquiry activities were selected for presentation to the elementary school students, with each activity utilizing an inquiry learning cycle design with hands on activities for the elementary students (Sarquis and Hogue, 2000). The university students were placed into eight groups with two or three university students assigned to manage each group. During the preparation workshop, the university students were given the opportunity to work through the prepared lesson plan and practice the activity and coordinate their efforts.

The course connected opportunity was the "Buddy Journal Project," which is a part of the Methods of Language Arts course taught to second semester juniors. Students correspond, via a written journal, to first grade students over the course of fifteen weeks. Initially, the course instructor assigned first graders to the university students, and the university students begin the correspondence with a letter of introduction while encouraging the first grader to respond to questions. University students are required to use standard manuscript handwriting, correct spelling, punctuation, and grammar usage while modeling the format of a friendly letter. Biweekly, the university students received and responded to journal entries that encouraged dialogue between the "buddies." During that time period, university students conduct intensive analysis of language arts and reading and writing skills in order to plan, create and implement a developmentally age appropriate lesson on the day of the "buddy visit," which is a one day celebration of their journey. Students spent the semester analyzing students' abilities in spelling, grammar, punctuation, verb usage, subject/verb agreement, pronoun usage, and phonetic elements. After the celebratory visit, university students returned to campus to debrief and write a reflective paper. The goal of the assignment was to prepare university students for the reality of classroom instruction, the difficulty of differentiating instruction, and the rewards of teaching a child a new skill or concept, while realizing the monumental task of meeting individual students' needs.

METHOD

Participants

The sample used for this study consisted of thirty-seven full time undergraduate early childhood education majors. The Junior Achievement and Science Fun Day project were opportunities opened to all education majors (managed choice). Therefore participants were freshmen through seniors. Their preservice teaching preparation varied from no experience to pre-student teaching with successful completion of methods courses. There was no experience required to participate. The students

participating in the Buddy Journals project were enrolled in their first methods course; therefore they were second semester juniors and possessed all the prerequisite courses for curriculum development, lesson planning and preparation, instructional design and classroom management, theories of learning, child development, and several special education courses. There were 11 participants in the Junior Achievement project, 14 participants in the Science Fun Day project and 23 participants in the Buddy Journal Project.

After an extensive study of the definition of self-efficacy and what impacts self-efficacy, the decision was made to focus on two of Bandura's principles of self-efficacy; Mastery Experience (authentic skill preparation) and Physiological and Emotional States (self-confidence) (Bandura, 1997). These two principles have the most direct relationship to the experiences and the purposes of the study. From these two principles a ten question survey with a Likert Scale was developed. The ten question survey was administered both pre and post by a research assistant related to the study to ensure avoidance of the Rosenthal Effect, in which researchers' expectations of a specific outcome affect an experiment's results (Martin, 1994). To safeguard from the Rosenthal Effect further, the research assistant administered and collected the survey, as well as, tallied the results. Huer and Saenz (2003) state, "Experimenters must guard against providing inadvertent verbal and nonverbal cues during a survey's instructions" (p. 212). When the survey was developed, five statements were constructed for each principle. The survey was administered before each managed choice project and immediately after each project. The course connected surveys were administered at the beginning and end of the semester in which the students took the designated course. The students were asked to rate each statement as to strongly disagree, disagree, agree or strongly agree. Data collection included pre and post surveys, and reading and coding all participants' reflections. All students whether they were a part of the course connected group or the managed choice group were requested to write a refection indicating their personal perceptions and feelings about their experience. The participants' reflections were a piece of data since students who engage in service learning must be given time and "opportunity for reflection on the experiences" (Buchanan, Baldwin, Rudisill, 2002, p.n 30). The pre and post survey statements are listed in Figure 1: Survey Statements.

Figure 1: Survey statements

Pre-Survey Statements	Post Survey Statements
1. I have a clear idea of the performance expectations for my career choice.	1. I have a clearer idea of the performance expectations for my career choice.
2. If everyone works together, many of society's problems can be solved.	2. If everyone works together, many of society's problems can be solved.
3. I generally can respond to new situations with an appropriate course of action.	3. I generally can respond to new situations with an appropriate course of action.
4. I learn course content best when connections to real-life situations are made.	4. I learn course content when connections to real-life situations are made.
5. I find it helpful to reflect on my actions once completing a significant task or project.	5. I find it helpful to reflect on my actions once completing a significant task or project.

6. The service aspect of this major may help me see how the subject matter I learn can be used in everyday life.	6. The service aspect of this major may help me see how the subject matter I learn can be used in everyday life.
7. The service aspect of this major may help me be aware of some of my own biases or prejudices.	7. The service aspect of this major helped me be aware of some of my own biases or prejudices.
8. The service aspect of this major may show me how I can become more involved in the community in which I live or work.	8. The service aspect of this major showed me how I can become more involved in the community in which I live or work.
9. As a result of my service learning experience, I expect to have a better understanding of my role as a citizen.	9. As a result of my service learning experience, I have a better understanding of my role as a citizen.
10. I tend to respond well when confronted with adverse situations that require immediate action.	10. I tend to respond well when confronted with adverse situations that require immediate action.

Statements 3, 4, 6, 8, and 10 were designed to assess the participants' mastery experience (authentic skill preparation) perceptions. Items 1, 2, 5, 7, and 9 were designed to assess their physiological and emotional states (self-confidence) perceptions.

FINDINGS

The survey results from the Junior Achievement and the Science Fun Day were combined since the two activities represent a *managed choice* made solely by the participant. These results were then compared to the Buddy Journals activity which was a *course connected* experience as a part of the course work. A combined mean rating score was calculated for each question. The rating score was calculated by assigning a value of four points to an answer of strongly agree, 3 points to agree, 2 points to disagree and 1 point for strongly disagree. The total number of points per question was calculated then divided by the number of participants to determine a mean score for each group.

Figure 2: Managed choice service learning opportunities

Question	*Pre*	*Post*	Δ
Mastery Experience (authentic skill preparation)			
3. I generally can respond to new situations with an appropriate course of action. 3. *I generally can respond to new situations with an appropriate course of action.*	3.4	3.7	+0.3
4. I learn course content best when connections to real-life situations are made. 4. *I learn course content best when connections to real-life situations are made.*	3.5	3.6	+0.2
6. The service aspect of this major may help me see how the subject matter I learn can be used in everyday life. 6. *The service aspect of this major may help me see how the subject matter I learn can be used in everyday life.*	3.4	3.4	+0.0

8. The service aspect of this major may show me how I can become more involved in the community in which I live or work. 8. *The service aspect of this major may show me how I can become more involved in the community in which I live or work.*	3.5	3.8	+0.3
10. I tend to respond well when confronted with adverse situations that require immediate action. 10. *I tend to respond well when confronted with adverse situations that require immediate action.*	3.3	3.5	+0.2
Mean	*3.4*	*3.6*	*+0.2*

Question	*Pre*	*Post*	Δ
Physiological and Emotional States (Self-confidence)			
1. I have a clear idea of the performance expectations for my career choice. *1. I have a clearer idea of the performance expectation for my career choice.*	3.6	3.8	+0.2
2. If everyone works together, many of society's problems can be solved. 2. *If everyone works together, many of society's problems can be solved.*	2.8	3.4	+0.6
5. I find it helpful to reflect on my actions once completing a significant task or project. 5. *I find it helpful to reflect on my actions once completing a significant task or project.*	3.4	3.2	-0.2
7. The service aspect of this major may help me be aware of some of my own biases or prejudices. 7. *The service aspect of this major may help me be aware of some of my own biases or prejudices.*	3.3	3.0	-0.3
9. As a result of my service learning experience, I expect to have a better understanding of my role as a citizen. 9. *As a result of this activity I have a better understanding of my role as a citizen.*	3.3	3.3	+0.0
Mean	*3.3*	*3.3*	*+0.1*

Figure 3: Course connected service learning opportunities

Question	Pre	Post	Δ
Mastery Experience (authentic skill preparation)			
3. I generally can respond to new situations with an appropriate course of action. 3. *I generally can respond to new situations with an appropriate course of action.*	3.1	3.6	+0.5
4. I learn course content best when connections to real-life situations are made. 4. *I learn course content best when connections to real-life are made.*	3.5	3.7	+0.2

6. The service aspect of this major may help me see how the subject matter I learn can be used in everyday life. 6. *The service aspect of t his major may help me see how the subject matter I learn can be used in everyday life.*	3.0	3.4	+0.4
8. The service aspect of this major may show me how I can become more involved in the community in which I live or work. 8. *The service aspect of this major may show me how I can become more involved in the community in which I live or work.*	3.1	2.7	-0.4
10. I tend to respond well when confronted with adverse situations that require immediate action. 10. *I tend to respond well when confronted with adverse situations that require immediate action.*	1.5	3.1	+1.6
Mean	*2.2*	*3.3*	*+1.1*

Question	*Pre*	*Post*	Δ
Physiological and Emotional States (Self-confidence)			
1. I have a clear idea of the performance expectations for my career choice. *1. I have a clearer idea of the performance expectations for my career choice.*	3.2	3.5	+0.3
2. If everyone works together, many of society's problems can be solved. 2. *If everyone works together, many of society's problems can be solved.*	2.5	2.9	+0.4
5. I find it helpful to reflect on my actions once completing a significant task or project. 5. *I find it helpful to reflect on my actions once completing a significant task or project.*	3.0	3.4	+0.4
7. The service aspect of this major may help me be aware of some of my own biases or prejudices. 7. *The serviced aspect of this major may help me be aware of some of my own biases or prejudices.*	2.8	2.5	-0.3
9. As a result of my service learning experience, I expect to have a better understanding of my role as a citizen. 9. *As a result of this activity I have a better understanding of my role as a citizen.*	1.5	3.1	+1.6
Mean	*2.6*	*3.1*	*+0.5*

The Junior Achievement and Science Fun Day projects were managed choice opportunities arranged by university faculty as volunteer opportunities for university education majors. These teaching opportunities were made available to virtually all education majors, regardless of course completion, formal training, etc. Thus, student volunteers for these teaching opportunities ranged the full gamut, from those students having had little or no formal classroom training to those who may have had all of their methodology courses, and were equipped with a myriad of teaching strategies and

techniques. Preparation for each of these projects focused more on the organization and practical aspects of the activity rather than on teaching strategies and learning theory. Student volunteers were provided with an overview of the activity, the goals and objectives of the sponsoring organization, and their roles and responsibilities. In these managed choice opportunities lesson planning, lesson development and delivery of the lesson, were the student volunteer's responsibility.

On the other hand, the course connected teaching opportunity, the Buddy Journal project, provided students with a very deliberate, structured in-class training regimen. The Buddy Journal project was built in to students' first Language Arts Methods course so they came into the class with the prerequisite course work in curriculum development and lesson design. Students were also afforded the opportunity to develop their teaching skills by performing demonstration lessons in front of their classmates and their professor for valuable feedback.

Data Analysis

Astin (1990) found what matters most to college students in order to create positive change in their lives is interaction among peers and interaction between faculty and students. The interaction in a course connected service learning project may account for students' increased self-efficacy. One student wrote, "I felt comfortable with the content and the literacy strategies, but I also knew if I failed, (the professor) was there to help. I knew she wouldn't let me fail." Daniels et. al., (2010) define service learning as a "teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities" (p. 3). The course connected service learning projects naturally lend themselves to rich instruction with adequate time for written and oral reflection. This time for reflection is vital to the process of improving self-efficacy. This pedagogy discrimination (Daniels et. al., 2010), "the ability to ascertain the differences between service learning methods courses and traditional methods courses" resonates with students and their ability to adequately reflect on their own learning evolves. According to Daniels et., al. (2010) when North Carolina Central University infused service learning into their eight preservice education courses, the feedback from students "marked improvement in the quality of student learning and engagement experiences" (p. 4). The demands of course connected service learning prepares teacher candidates for the classrooms they will encounter as they graduate and find permanent work. It is suggested that engaging in service learning can further participants' understanding of working with others, in turn being a successful teacher. Karli writes in her reflection, "working with my buddy made me realize how challenging teaching can be. I also learned how rewarding it is when a student learns a new concept or shows understanding. I am learning that being a teacher will be hard, yet rewarding. It is a journey I am excited to take."

As evidenced by the students' reflections the course connected opportunities were no less challenging than the managed choice opportunities, however it became evident that they were better equipped to make lesson adjustments or modifications with the bank of

alternate teaching strategies and techniques they collected over time and the prerequisite content knowledge fresh in their memories..

Survey results from each of the three student engagement/teaching opportunities indicated positive gains in the cognitive and affective domains of self-efficacy. In each of the managed choice projects the student volunteers knew very little about the children they would be teaching. Therefore, they needed to be prepared to adjust and accommodate for individual student needs. The course connected opportunities provided university students approximately twelve weeks to "get to know" their buddy via the written correspondence. University volunteers, representing both course connected and managed choice experiences, responded favorably in both the cognitive and affective domains with a significantly greater positive change indicated by those student volunteers who had participated in the course connected opportunity. One would conclude that this was due to the greater preparation afforded these preservice teachers through their weekly class meetings. In contrast, the managed choice student teachers entered their teaching experience equipped with nothing more than their lesson plan and any skills they may have acquired through life experiences, other course work, and/or sheer instinct. The course connected students felt more confident in their ability to handle adverse situations in the classroom and they had a clearer understanding of their role in the classroom. Also, the instructor who prepared her students for the Buddy Journal project, carefully scaffold their learning and monitored comprehension of content material.

Another factor contributing to the greater positive change in self-efficacy resulting from the course connected opportunities is the context within which students were performing. For example, though their exact reasons for motivation may have differed slightly, most students volunteering to participate in one of the managed choice opportunities, the Junior Achievement activity or the Science Fun Day, were interested in acquiring interface time with elementary students. Some were seeking authentic classroom experiences with young children, while others were more interested in adding another entry to their resume. Regardless, these students were actively seeking opportunities to work directly with children. This, in no way should diminish the efforts of these students, or cast a negative light on their motivation, however, the incentive is clearly different than that of the course connected students.

In reality, those students involved in the course connected Buddy Journal activity, have a greater level of concern, related primarily to achieving course goals and objectives, which in turn, translate to earning a positive grade for the course. In contrast, the managed choice volunteers have no other context beyond being thrust into a teaching situation and surviving the day. This should not be interpreted negatively, as though their desire to succeed was any less than that of their course connected counterparts. However, one cannot ignore the fact that they had no specific cognitive or affective goals or objectives to base their learning and in turn, their teaching. Their goals, as evidenced by written reflections, were rooted mainly in two questions, "Did I have fun?" and "Did the students have fun?" Within the context of the course connected opportunity, having fun was an admirable goal, but these student volunteers were also

reflecting on the success of their lessons within the context of student learning and student achievement.

As is the case with most learning opportunities, there were, of course, unexpected outcomes. For instance, in all three projects there were significant gains in self-efficacy. These gains were most evident in the area of collaboration. Specifically, in all three projects, the Junior Achievement Day, the Science Fun Day, and the Buddy Journal activity, university students were assembled as a team, and in each case the team planned and prepared for major school event, an event that the elementary students were eagerly awaiting. Preservice teachers were reinforced by the excitement and anticipation exhibited by the elementary students.

The reflections from students participating in the managed choice opportunities fell mostly in the affective domain. Student volunteers reported how they felt before, during, and after their student engagement experience, but with little or no apparent connection to what they may have learned in their coursework as elementary education majors. They made no reference to the relationship between specific content, teaching skills or teaching strategies that they may have acquired and applied to their classroom experience. This lends one to believe that there was little or no transfer of previously learned knowledge or skills, and of greater concern, possibly little or no transfer of knowledge or skills to future teaching endeavors.

Sample reflections from the managed choice opportunities, Junior Achievement Day and Science Fun Day included:

> "Monday night, I was full of nerves. I was completely scared to teach five different lessons to the third grade class, even though there were only eight kids."
>
> "We had moments of chaos and there were times I wanted to give up or scream; however those times passed and we moved on with our activities."
>
> "I had a great time and not only did the students enjoy the day, so did I."

In contrast, though the course connected project reflections (those reflections from the Buddy Journal activity) included similar reflections couched in the affective domain, of notable difference were reflections that commented on strategies obtained during class instruction and during lesson planning and preparation. These reflections indicate that students were able to transfer and apply previously acquired knowledge and skills to an authentic classroom teaching experience. Further, and of greater significance, is the implication that respondents could apply these previously acquired skills and basic knowledge to future teaching opportunities.

Sample reflections from the course connected Buddy Journal activity included:

> "I realized that the game wasn't keeping their interest, so thankfully I had a back-up plan. The cardstock paper that I had laminated came into good use, for they spelled/wrote out some of the words I used for the game."

> "The lesson really allowed me to use different skills that I was taught, to help teach James how to become a stronger speller."
>
> "I have been able to teach lessons through different field experiences, but in this case I was able to teach a lesson that met the needs of this particular student. I was able to see first-hand, the success of my teaching."

In essence, education majors going into an authentic teaching situation without proper preparation may be at risk of more than short term failure. One negative experience could send the wrong message to a preservice teacher. As one of the managed choice volunteers stated, "The first thing I learned is that I am not suited for kindergarten." Yet, in reality, she may simply not have been prepared to teach kindergarten. In the course connected student engagement opportunity the students were well prepared, with well-structured instruction, providing them with strategies and back-up plans. The experiences had meaning because it was directly connected to course outcomes. When their teaching experience concluded, they could reflect on specific elements of the teaching and learning process. Furthermore, students felt they had a skill set to handle adverse situations.

CONCLUSIONS

Within the construct of service learning, there was a difference in the development of teacher self-efficacy between managed choice and course connected participation as indicated in this particular study. Although the intention of all service learning is to provide all participants with a valuable experience with reciprocal benefits, the findings from this study clearly indicate that service learning connected to a course has a far greater benefit for preservice teachers in their self-efficacy. It was clear that students had the capability "to regulate their own learning" (Zimmerman, 2000, p. 82) in the course connected opportunity and had the ability to reflect on their learning by making connections to course content. Wade (1995) found that service learning has the ability to empower student teachers because it provides them with the necessary perception of possessing authority, and many times, the affirmation needed in order to be successful.

In a managed choice environment a connection to prior knowledge and skills may be left to chance. A preservice teacher may or may not recognize an eminent situation to which their previous course learning may apply and help them perform in an effective manner. Anticipation comes with experience. Given the same situation in a course connected experience the instructor can help the preservice teacher predict situations and role play or practice how to best cope. The instructor in a course connected activity can help the preservice teacher plan for the "unforeseen" situation and help improve the odds of a reasonably positive experience. The preservice teacher will then be able to make a reasonable judgment about their own capability and interests in relation to their own needs interests, and abilities. "In 1977, Bandura proposed that it was in the early stages of the learning process that self-efficacy was the most malleable, suggesting that the experiences of preservice teachers were critical to their subsequent self-efficacy as practicing teachers." (McDonnough and Matkins p.14) If left to their own inexperience, the preservice teacher may be confronted with situations for which they

make decisions that may mislead them in a needless negative self-assessment. In a course connected service learning project the self-perceptions, knowledge, and skills can be more easily maximized for improved self-efficacy.

IMPLICATIONS

This study examines the effects service learning has on students' teaching self-efficacy when required to participate in an activity (course connected), compared to when they chose to volunteer in service learning projects. Preservice teachers engaged in service learning both as part of a requirement of a course and on a voluntary basis, and their attitudes toward teaching were measured using a survey and reflective written journals. The results indicate that students who engage in service learning as part of a course requirement feel more positively toward their preparedness and ability to teach children. The implications of this research have the potential to greatly affect how university faculty may or may not offer service learning projects/opportunities to students. First and foremost, program coordinators should be selective when choosing student engagement opportunities. Students should be monitored closely to ensure students are reflective on the experience and making the connections to previous knowledge and/or experiences. If an opportunity is not connected directly to a course, there should be some level of support for student volunteers to make those authentic connections. Providing students with real-world experiences will help them grow as teachers, but they will only grow if they are aware of the connections they are making. Root (1997) found that service learning is associated with gains for preservice teachers in developing attitudes and values to be successful in future teaching endeavors.

Some students may exhibit a cavalier attitude about the experience if they are engaging only to fulfill a university sanctioned requirement. Many universities have adopted service learning requirements for graduation. The results of this study indicate that student learning is minimized when the primary motivation is to fulfill a graduation requirement. Prior research has not focused directly upon the divergence in these two constructs to delineate the potential for best practices. This research shows there is a plausible belief that course connected service learning is a better approach for teacher preparation than allowing students to explore on their own.

Furthermore, course connected service learning requires much effort on both students and faculty. One student responded after engaging in the course connected project "I worked harder in this class than any other because I knew I was responsible for teaching a child. That child was counting on me to plan a developmentally appropriate lesson that was fun and engaging. I certainly couldn't let the child down and I wasn't going to let myself down either." Strong curriculum connections must be made and students must possess the ability to articulate those connections. Moreover, students may be inclined to put forth more effort into a service learning project that is required because they want to earn a favorable grade. Although reflective papers did not indicate that to be the case in this research, it certainly is a plausible scenario. Finally, the instruction of a course connected service learning project has the luxury of an entire semester to plan, teach, and prepare students for a particular project.

Lastly, the area of service learning is at the forefront of curricular issues at many college and universities as administrators and instructors examine the positive possibilities of these opportunities for all students. "Service learning is a pedagogical approach in which students learn and develop through active participation in thoughtfully organized service experiences" (Buchanan, Baldwin, & Rudisill, 2002, p. 30) that can be carefully monitored if connected directly with a course requirement. In the review of the literature, there was no research to date that examined the relationship between self efficacy and service learning when associated with curricular requirements. Comparing whether increases in self efficacy are better served either by opportunities that are required or voluntary in nature is a new area of research that can be explored more as university faculty begin to teach more service learning courses in their respective departments. This is an area that is limited in the literature but of interest to those currently teaching at institutions of higher learning.

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