# Critical Reflections of Pre-Service Teacher Education Student Participation in Service-Learning: A Pilot Study

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#### Abstract

This pilot study explored the effects of participation in a servicelearning initiative on first-year pre-service teacher education student development. The focus of the service-learning was a combination of problem-based learning and immersive activities, pairing pre-service teacher education students with an early high school-to-college bridge program established within a public urban high school in the Northeastern United States. Through examining pre-service (6) student interviews as well as content analysis of individual student journaling and researcher observations, three themes emerged that contribute to pre-service student development: (i) exposure, (ii) involvement, and (iii) learning from experience. Students who participated in the servicelearning expressed perspective taking in relation to engaging and being responsive to school-aged youth. This in turn may enhance pre-service student views of their own personal growth; preparation for future work as teachers; and continued awareness and promotion of benefits to community engagement and applied learning.

Keywords: service-learning, pre-service teachers, experiential learning, community engagement, applied learning

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#### Introduction

Experiential learning refers to engagement that can effectively lead to learning, because an individual can develop a stronger sense of meaning behind their actions and involvement in activities, this meaning then becomes intentional or unfolding (Beard & Wilson, 2013). In teacher education experiential learning is a natural fit as traditional education programs consist of pre-service students acquiring time spent in schools (e.g., classroom observations and clinical practice) while still enrolled within a university, this in turn helps students to bridge theory to practice through applied learning early in their teacher training preparation while working directly with students and youth alike. Pre-service students are understood as those students that are enrolled in teacher education programs who are learning to become professional teachers (e.g., in-service) through specific course selection, documented time spent in schools, and the meeting of specified criteria required by both the state and degree granting institution (Parkay, 2019). There is a suggested developmental advantage occurring for those individuals who participant in gaining access to opportunities to take part in experiential learning early on in their academic programs. Pre-service teachers benefit from gaining access to the combination of academic learning and civic engagement early on, because of the range of opportunities to develop and apply leadership skills, potentially advancing personal development and knowledge of important educational frames of reference (Daniels, Patterson, & Dunston, 2010). These forms of engagement speak to what is referred to as transformative learning. Transformative learning is the recognition of how one's prior knowledge may be enriched through the acquisition of new knowledge—resulting in strengthening of personal internalized meaning behind one's experiences (Carrington, Mercer, Iyer, & Selva, 2015). The process of transformative learning becomes both the underlining reinforcement behind engaging in experiential learning as well as a potential outcome. Scholars have noted that transformative learning in college student development is critical and emerges from individuals having gained access to, participation in, and ultimately completion of a variety of educational experiences while enrolled in college (Pike & Kuh, 2005), this exploration nurtures what is understood as best practices for supporting college student development or high-impact educational practices (Kuh, 2008a). These related viewpoints serve as reasoning for consider-

ing college student development through service-learning activities, encouraging college students to work directly with community members to learn from and engage with the community. Whereas experiential learning therefore encourages applied learning through the perspective of college student participation, the service-learning activities reinforce critical reflection of the actual participation to support the development of learning processes (Jacoby, 2015). Our paper, a pilot study, focuses on examining a service-learning (SL) initiative within a teacher education course. We (1) introduce the service-learning initiative, (2) relate service-learning to community engagement-applied learning, (3) report on findings of student interviews and journaling, and lastly, (4) present future directions on research combining service-learning and teacher education

## Institutional Practices and Background on the Service-Learning Initiative

Organizationally, our institution is a 4-year private Northeastern university, the service-learning initiative that we introduced was formed within our School of Education (SOE) to aim to formalize servicelearning practices and engagement that could be directly tied to teacher education. A central goal being to create opportunities for pre-service teacher education students to access and participate in community engagement early on along their path towards teacher education preparation. Structurally, as a university we have an Office of Transformative Learning (i.e., including a Vice-Provost for Transformative Learning as the main lead), this unit oversees a range of campus programming associated with both student and faculty enhancement and support. A primary example of institutional structure is faculty development facilitated through our Center for Excellence in Teaching and Learning, which also contains a Service-Learning arm that supports and oversees campus-wide Service-Learning involvement. Our SL initiative within our SOE helped to further these institutional links by filtering ties down to our School-Level, while also encouraging extension out to the community.

Many institutions of higher education work on infusing their respective institutions with opportunities for more well-rounded and hands-on experiences offered to their students through curriculum and course options. Some universities designate courses as being directly related to courses with embedded experiential learning components. The learning environment provided is suggested to create conditions for students to engage in experiential learning that can then lead to a process

of eventual transformative learning. These types of available course offerings are ultimately intended to provide authentic learning experiences to students and encourage enhanced student perspective taking, while contributing to growing a critical awareness among students in areas such as community engagement. These points of emphasis help to facilitate the pursuit of these courses with the intention of supporting overall student learning, further developing students across multiple domains, whether personal, social, academic, civic, or other. A clear example of exposure to experiential learning among students is participation in service-learning, primarily because service-learning is suggested to facilitate the prospect of participants addressing human and community needs along with a building of a greater appreciation for in-depth reflection upon the completion of the service (Jacoby, 1996). This may involve the enhancing of quality of perspective taking that students construct over time. Many pre-service teachers as an example, progress within their respective teacher education program to partake in year-long clinical experiences (e.g., student-teaching) (Henning, Erb, Randles, Fults, & Webb, 2016); subsequently, having gained experience in service-learning prior to the year-long clinical experience may add significant value to the degree to which pre-service teachers have practiced reflection on their actions and behaviors as well as exploration of their views on youth and community development before entering into the year-long clinical practice.

Our service-learning initiative was first thought of during the semester and summer prior to the year that it was first implemented with the implementation starting during the 2016-2017 academic year. Our School of Education Dean made a request to the lead author to establish a community service component within a required pre-service undergraduate education course. The lead author responded by initiating conversations and inquiring about service opportunities to engage with a local urban public high school, the intention centered on creating a university-community partnership. These conversations lead to the opportunity to connect students from the lead author's course to an early out-of-class community engagement specific to working with an early high school-to-college bridge/academy program (e.g., which had been recently established within a local urban high school, beginning in fall 2016). The pairing of the service-learning initiative with the college course was done by replacing a related research paper assignment in the course with community engagement, hands-on experiential learning or applied learning, via service-learning. Also, the language of introducing a community service was introduced as a service-learning rather than

just a community service to remind students of the emphasis on learning that can occur through critical reflection and journaling that generally a service engagement may not entail. The pre-service undergraduate course enrolled first and second year students intending to major in teacher education. Through service-learning, students were introduced to both problem-based learning and immersion activities, addressing communication and responsiveness to school-aged youth. Examples of service-learning activities that occurred both on campus and at site were workshops on college writing, goal setting (e.g., personal and academic; life beyond high school), accessing of university resources (e.g., state sponsored educational opportunity fund), perspectives on mentoring (e.g., role and impact of mentors), a university campus tour, and other forms of engagement such as exploring opportunities for successful college transitioning and developing greater awareness for understanding present and future pathways to success. Encouraging pre-service teachers to engage in service-learning was done to support students making real-time links between observing and engaging with youth to gaining a sense for how youth construct and process or dialogue on relevant information associated with their current progress in school, supporting reinforcement of content material learned in the course. The expectation of service-learning participants was the completion of journal entries based on the time spent in the service-learning, adding a dimension of fostering critical reflection of personal growth and awareness of contexts that may be contributing to youth development. This early focus on community engagement provided students with in-depth perspectives on what it may mean for them to commit to scheduled gatherings (i.e., an initial frame of reference for eventual more structured time spent in schools or clinical teaching experience), consistent reminders of the importance of self-regulated learning (e.g., building up of individual skills associated with being patient, attentive, and also having a willingness to initiate-lead conversations), and in particular expansion of broader viewpoints on schooling as a whole (e.g., such as potential schooling experiences distinct from the pre-service student's own) as well as real-time recognition for varying needs of youth (e.g., diversity in youth development). Participation in the service-learning initiative was a model of an early learning phase for students to consider becoming a well-rounded educator. Conceptually, individuals who participated in the service-learning may be better positioned to become more prepared to engage with diverse communities once they eventually transition into the teaching profession. For example, high quality teacher professionals often have progressed from an initial (e.g., early in teacher education programs; first-year and second year) to a more

fluent recognition of learning across multiple contexts such as schoolaged student development, school settings, educator-student communications, and strategies (Henning, Erb, Randles, Fults, & Webb, 2016), namely service-learning representing a form of teaching pedagogy.

# Service-Learning as an Application of Community Engagement and Applied Learning

Community engagement is service-learning, lending to both a teaching and learning strategy that merges service and personal reflection (Daniels, Patterson, & Dunston, 2010), while potentially promoting collaboration between institutions and communities. The embedding of the service-learning initiative underscores pre-service teacher education well, because it reinforces a premise that community engagement through applied learning is crucial to supporting relationship and capacity building between institutions of higher education and respective surrounding communities. There is a documented history on the promises of community engagement, a mechanism for sharing of resources, to strategically place it as a standard among institutions of higher education to serve and address the needs of communities. Research over the last decade in this current journal has spotlighted this by making the case for applied learning across multiple forms of course and program design, service-learning continues this momentum. There are many contexts associated with applied learning that link back to service-learning, including, but are not limited to: what is known of the benefits and reported meaning behind community engagement in contemporary times (i.e., strengthening of university-community partnerships), reviews of institutional factors and programming that contribute to effective engagement (e.g., community engagement underlining best practices within the field of engaged scholarship), and shifts in institutional practices of community engagement from simply applying existing institutional programming to outreach to communities to the redesigning of programs to meet the needs of increasingly diverse sets of stakeholders, to the integration of the process of engagement as an example of institutional missions and transformative learning. Therefore, there are a number of theoretical and practical inroads being made to express a commitment to community engagement and applied learning through the application of service-learning.

#### Methods

## Design and Approach

Our study applies a case study (Balback, 1999) approach as our findings presented consist of describing the impact of engaging in service-learning on first-year pre-service teacher education student development. The sampling that we used was a convenient sample as participants were university students who had engaged in the embedded service-learning initiative within their respective college course. Our qualitative research design focused on the following areas of critical reflection (Ash & Clayton, 2009): (a) content analysis of SL participant's reflective journaling (e.g., the journaling involved having students reflect on describing, examining, and then articulating their learning derived from their SL experiences; D.E.A.L. Model), (b) a series of interviews (i.e., interviewees were asked for consent and informed of their rights; interviews were audio recorded and lasted approximately 30 minutes each; all interviews were recorded and transcribed) that were conducted with students to better understand more in-depth perspective on a range of related contexts on such areas as (i) personal meaning behind engaging in service-learning, (ii) impact of engaging in service-learning on oneself and others, (iii) the potential contributions of having engaged in service-learning to understanding of teacher effectiveness, and (iv) implications for becoming aware of university-school partnerships, and (c) our researcher observations of students engaged in the service-learning. The inclusion of these three distinct indicators allowed for triangulation, which combined with rich description of data and researcher clarifications increased the likelihood of credible results (Creswell, 1998).

## **Study Contexts**

Approval was obtained from our Institutional Review Board for the research protocols used in this study. All participants signed an informed consent form prior to the interviews. A total of 6 traditionally college-aged students agreed to participate, individuals were in their first or second year enrolled in a four-year mid-sized private Northeastern higher education institution. The ethnic-racial background of participants consisted of one male European-American student and four European-American as well as one Latina female student. Data collection occurred in the spring and fall of 2017. All interviews were confidential and only research team members had access to transcripts, all interview data, including transcripts as well as journaling and any

observation notes were stored in a locked cabinet. In the subsequent sections we report on our findings, study limitations, and concluding perspectives.

## Results

The findings presented herein consist of reporting on critical reflections made by students along with clear progression of student development being made through the application of service-learning, directly tied to experiential learning. In relation to the content analysis of student journaling, students had the opportunity to expand upon the D.E.A.L. Model for Critical Reflection (Ash & Clayton, 2009), as students were prompted to reflect on their individual experiences in the servicelearning during the semester long course in which the service-learning took place. In combination with observations, the findings of our study suggested that pre-service teacher education students gained a considerable amount of meaning behind engaging in service-learning. After reviewing the data collected and examining it in-depth, three overarching themes emerged, we spotlight each along with providing a subheading to help summarize student feedback.

## Finding 1: Exposure

# Contributions being made to developing a person's frame of mind (e.g., mindset).

This became evident in how students were willing to be open minded and actually began to form connections between initial prior knowledge and new knowledge construction:

It was a very different environment than I am used to and as a teacher you need to be exposed to all different kinds of environments. (Angelica; Latina, Cuban-American)

You need to be able to have time spent in schools before you're actually a teacher and be exposed to different kinds of children and children with all types of needs and from all different types of backgrounds. (Jennifer; Female, European-American)

Well I thought that service-learning was a great thing... it allowed me to be a part of the community around [the university] more and I really got to speak to the kids individually and it just was great exposure to eventually being a teacher. (Emily; Female, European-American)

I just feel like it opened me up to understanding different ethnic backgrounds... I have to work hard to make sure I set a good foundation for the children. (Samantha, European-American)

Definitely sharing your experience gives you an experience in itself, because not everyone is a mentor or has mentored before and having to do it for class might motivate them like I am motivated to go on my own and meet with other students and help them.

(Lindsey, European-American)

I genuinely enjoyed service-learning. It gave me a different perspective on how to be a teacher. Getting that new experience from service-learning truly helped me gain a new perception... it helped me realize how much a teacher matters in a classroom and it changed my perception of teachers. (Michael, European-American)

## Finding 2: Learning from Experience

Gaining a sense for the process of perspective taking. This was highlighted as students began to reflect on how experience relates to their current individual progression:

> I would say that it opened up my mind in that working with older kids, like I never worked with older students before this servicelearning... I always worked with younger children so in that way it changed my perspective. (Angelica; Latina, Cuban-American)

I think any experience that you get in a classroom before you're actually going into the real world is important because it gets you experience... That's important for service and teaching. (Jennifer; Female, European-American)

Also, learning from those experiences and following up with those experiences so I can be better for next time and it was a great way to help the community. (Emily; Female, European-American)

I would say it's really different to me like everyone comes from a different educational background and the foundation kind of starts at home and what their home life is like. Some of the exercises we did we learned about where these students come from and I compared it to myself and what I have in a way and it got me thinking about that [perception of self and others]. (Samantha, European-American)

It also got me thinking about stuff like that [perception of self] and others] and it gave me confidence to be more of a mentor to other students because I never did something like that before... I can open up with [students] and learn about their life and they learn about mine we like talk about some things and it definitely makes it more comfortable with trying to relate to students on a different level other than just math or science other than just core subjects, but on core subjects I think that is important too. (Lindsey, European-American)

What it does is it puts you in a classroom essentially. In that sense I think it was very helpful and it gave me an idea of what a classroom is like, not only did it make me understand the differences in school districts. It made me feel grateful for the education I had growing up and made me realize that as a teacher, because we were lucky enough to participate with teachers [in the service-learning]. (Michael, European-American)

# Finding 3: Involvement

# Community engagement through service-learning.

Students became more informed of the application of service-learning and it's potential role it can play as a mechanism for students to be informed and more engaged.

Service-learning means to me about getting involved in local communities. (Angelica; Latina, Cuban-American)

I liked how we all worked together as a classroom, we all did group activities, it just made it easier to talk to the kids...in the service-learning you had to be able to like put yourself out there and be like outgoing... work together... I think future teachers getting as much experience as they can will help them in the long run... be familiar with students. (Jennifer; Female, European-American)

I think it affected me personally, because it really opened my eyes to the community around me and I was able to learn more about teaching... teaching [the youth] from other backgrounds

then my own... I think it really just broadened everyone's horizons and put me out of my comfort zone a little bit and it made me more comfortable to do that and work with kids (Emily, European-American)

I feel like service-learning like what we're doing is like what a business major would be [doing] going to an internship... its outside of the classroom practice.. we're not just helping ourselves we're helping others while we do it like mentoring others so they get a gain too (Samantha, European-American)

Looking past just what you see in front... looking deeper into their home life and being aware of differences between the children, because that's something we talk about in class and I feel like also being able to know [students] on a personal level than just [based on a textbook]. (Lindsey, European-American)

As far as benefiting the people going through service learning, like I said before it gives you the experience of being in a classroom and benefiting the community... it [also] gives [the university] a better reputation... it helps [the university], because when people come out of [the university] with a teaching degree they'll have experience.

(Michael, European-American).

# **Student Journal Entry Samples**

The student journal entries added reinforcing perspectives to help students center their attention on making sense for themselves on what service-learning has meant to them:

I think it [is] important for future teachers in the education program to get lots of time in schools and with kids, and that is exactly what this experience has given me and my classmates. We got the opportunity to work and interact with students, which is the ultimate goal of this service-learning experience... The fact that we as a class go out and are actually doing what we learn about in class we are just reinforcing everything we learned and will eventually help us in the long run.

(Angelica; Latina, Cuban-American)

I did not realize this would benefit me greatly in preparing to become a teacher. I learned a lot simply from talking to some students and my peers on the days of the service experiences. It is definitely something that made me more confident in talking and relating to students about whatever topic comes up. It also interested me to see my peers all come together and complete the hours for more than just saying we got course credit. All in all, it was a very good experience and my knowledge of servicelearning grew each meeting we had... The idea of reflecting and connecting what one learned back to what the course is teaching, makes for deeper thinking then simply sitting in lectures. (Jennifer; Female, European-American)

I have developed an even greater passion for being an educator. These experiences have taught me so much about service-learning and how it is an effective way of teaching. I was able to get hands on experience while being able to reflect and be guided through the process. It is a teaching style, because of the fact it is organized by an educator and it is effective because the students are actually participating in the activity that they are learning about... I believe the students that we were working with in the service-learning project also benefited, because of the fact that they are working with people that are closer in age with them, almost like peer learning.

(Emily; Female, European-American)

Visiting the [high school-to-college bridge program] opened my interest to having more university-school partnerships in the future. I have gained so much knowledge about others and it opened a new world for me. I realize how important these partnerships are. I think it is important for children to have a relationship with older students, and not just older adults. It also helped me have relationships built with other students, just like I will do when I become a teacher. So, this partnership has helped me grow into a better teacher candidate. Both sides of a university-school partnership can benefit from this relationship. The university students will gain better communication skills. as well as the school students... This partnership has driven me to want to continue mentoring and helping others. (Samantha, European-American)

I think it's really important to stress the idea of getting involved in a service-learning experience[s] before stepping in a classroom setting for your first day of work. With this experience, fu-

ture educators can get a sense for what to expect in a classroom, aside from observing as a bystander through observation hours. With service-learning, others get a chance to truly connect with students aside from knowing students based on their achievements in school. I have found this to be the most interesting and important aspect that I have taken away from this experience because although we are all different, we have commonalities with the goals we want for our future, and the types of achievements in education we want to make. (Lindsey, European-American)

A personal gain I received from the experience is actually quite surprising. Upon walking into the school, we were stopped by security guards and metal detectors, and had to give ID to the front desk. After this first impression, I was quite concerned with the nature of this school and what we were bound to walk in on. To my surprise, I had an experience with very bright students who do want to grow as intellectuals. As I continued to talk with each of them, I began to notice their intelligence even more. The gain I received was that although they may not come from the best neighborhood or have the same opportunities as others, they still work very hard to get to where they are and perform to the best of their abilities. Working with the cohorts gave me a better understanding of how a classroom is operated and an idea of the style of teaching I want to follow. The service-learning allowed me to observe the different aspects of a high school classroom and other factors that come along with it. (Michael, European-American)

## **Study Limitations**

First, interviews were conducted on a volunteer basis. Therefore, we utilized a convenient sample. Participants who agreed to be interviewed and have their respective journaling reviewed were understood as a subsample of the total amount of students who participated in the service-learning initiative. As such, smaller sample sizes along with interpretation of the data collected only reflects a unique segment of preservice teacher education student perspectives—results offer an inside look at a case study. Second, our subsample itself represented a convenient one. Continued research should be inclusive of more participants so as to gather a more comprehensive and more in-depth representation of service-learning and its potential benefits for pre-service teachers. Second, our study emphasized results from a specific demographic of

students, those that were enrolled in an education course offering a service-learning component within a mid-sized private Northeastern higher education institution. Third, the majority of participants were female and European-American, leaving room for considerations associated with extended intersectional student backgrounds and perspectives. As a whole, we recognize that the findings of our study perhaps are only localized to our specific institutional contexts, whether the service-learning initiative or subsequent student participation can be actually scaled to other institutions remains to be further understood.

#### Discussion

Our study contributes to research on ensuring opportunities for constructive early learning experiences among pre-service teacher education students to enhance their personal frame of reference in relation to expectations, commitment, and engagement with youth. An implication of this research is that community engagement and applied learning matters. Finch, Steinke, and Hudson (2013) suggested that servicelearning, for example, is critical in this area, as it can bridge curriculum and outside of the classroom experiences; ideally fostering personal growth. Our study's findings reinforces this understanding by having reported on what participating in service-learning meant to a segment of pre-service teacher education students. In addition too, an outcome of teacher education students having participated in this service-learning was engaging with an urban centric diverse high school student population that perhaps otherwise may not have occurred among pre-service teacher educators. The emphasis being, that the youth in the high school-to-college bridge/academy program were all identified as either Latinx or African American and were also understood as high achieving students as they were dual enrolled in both a community college and their respective high school (e.g., the program's goal was completion of both a high school diploma and Associate's Degree), presenting a divergent mainstream student of color narrative that may be overlooked. The design of the service-learning strategically brought together these two community of learners offering an important case study.

#### Conclusion

We believe service-learning in higher education supports students developing a greater sense of self-regulation particularly in recognizing such contexts as broader viewpoints around schooling (e.g., possible schooling experiences distinct from their own, relative to the com-

munity partners being engaged). Future research, beyond this pilot study, will focus on considerations for replicating the service-learning embedded within teacher education contexts to a larger participant sample size. Further research ought to center on the impacts of servicelearning on the community partner(s) involved as well as an attempt to follow-up with university student participants in later years to determine any perspective change from initial service-learning experience across subsequent years. Furthermore, more research is needed to better understand how organizational and institutional practices can support similar service-learning initiatives within respective university and community settings.

#### References

- Ash, S. L., & Clayton, P. H. (2009). Generating, deepening, and documenting learning: The power of critical reflection for applied learning. Journal of Applied Learning in Higher Education, 1(1), 25-48.
- Balbach, E. D. (1999). Using case studies to do program evaluation. Sacramento, CA: California Department of Health Services.
- Beard, C., & Wilson, J. P. (2013). Experiential learning: A handbook for education, training and coaching (3rd Ed.). Philadelphia, PA: Kogan Page.
- Carrington, S., Mercer, K. L., Iyer, R., & Selva, G. (2015). The impact of transformative learning in a critical service-learning program on teacher development: Building a foundation for inclusive teaching. Reflective Practice, 16(1), 61-72.
- Daniels, K. N., Patterson, G., & Dunston, Y. (2010). Rules of engagement: A service learning pedagogy for pre-service teacher education. Journal for Civic Commitment, 15, 1-16.
- Fitch, P., Steinke, P., & Hudson, T. D. (2013). Research and theoretical perspectives on cognitive outcomes of service learning. In P.H. Clayton, R. G. Bringle, & J. A. Hatcher (Eds.), Research on service learning: Conceptual frameworks and assessment (pp. 57-83). Sterling, VA: Stylus Publishing, LLC.
- Jacoby, B. (1996). Service learning in higher education: Concepts and practices. San Francisco: Jossey-Bass.
- Jacoby, B. (2015). Service-learning essentials: Questions, answers, and lessons learned. San Francisco: Jossey-Bass.
- Henning, J. E., Erb, D. J., Randles, H. S., Fults, N., & Webb, K. (2016). Designing a curriculum for clinical experiences. Issues in Teacher Education, 25(1), 23-39.
- Kuh, G. D. (2008a). High-impact practices: What they are, who has access to them, and why they matter. Washington DC: Association of American Colleges and Universities.
- Lopez, P. (2016). Student perceptions of a summer bridge program for underrepresented students. Journal of Applied Research in the Community College, 23(1), 27-39.
- Parkay, F. W. (2019). Becoming a teacher (11th ed.). Hoboken, NJ: Pearson.
- Pike, G. R. & Kuh, G. D. (2005). A typology of student engagement for American colleges and universities. Research in Higher Education, 46(2), 185-209.
- Sablan, J.R. (2014). The challenges of summer bridge programs. American Behavioral Scientist, 58(8), 1035-1050.