Examining service-learning in a graduate physical education teacher education course

Karen S. Meaney[1], Jeff Housman[1], Arnoldo Cavazos[1], and Michelle L. Wilcox[1]

Abstract: This study was designed to explore the impact of service-learning on graduate physical education teacher education students. Social-Cognitive Theory (Bandura, 1986; 1999) served as the framework to examine graduate student's experiences in a service-learning program. Participants were graduate students (N =16) enrolled in a curriculum and instruction in physical education course at a major university in the southwest United States. The course's service-learning component provided graduate students opportunities to teach physical activity to Hispanic-American and African-American children from low-socioeconomic backgrounds. Participant's described their experiences through weekly reflections and discussions. Content analysis of data sources indicated that participation in the service-learning program strengthened graduate student's efficacy for teaching, contributed to their acquisition of varied teaching strategies, and enhanced graduate students understanding of children living in low-income, minority households. Findings suggest service-learning can be a valuable pedagogy to infuse into graduate teacher education programs.

Keywords: experiential-learning, sport pedagogy, social-cognitive theory

Service-learning is a teaching technique that bridges academic study and civic engagement. Specifically, this dynamic pedagogy enables students to partake in meaningful community service directly related to their academic course content. This learning environment enables students to validate theoretical and often times complex principles discussed in class to authentic settings. These experiences are reinforced through critical reflection activities, which assist in connecting the service experience to academic subject matter (Cress, 2005).

John Dewey's work in the early 1900s examining the role of higher education in citizenship development initiated dialogue and the theoretical foundation for service-learning (Dewey, 1938); however, it wasn't until 1984, when David Kolb transformed Dewey's six-step inquiry process into a four-component learning cycle for experiential learning that service-learning curricula received considerable attention (Kolb, 1984).

The well-documented benefits of student participation in service-learning include favorable influences on student's personal outcomes such as heightened levels of self-efficacy, identity, and moral development; and social outcomes including reduced stereotyping and enhanced diversity appreciation (Eyler, Giles, Stenson, & Gray, 2003). Teacher education programs have utilized service-learning to prepare future teachers in numerous settings and academic disciplines (for a review see Anderson, Swick, & Yff, 2001). Early investigations examining the impact of service-learning on pre-service educators in a variety of content areas have revealed advantageous outcomes in regards to the pre-service educator's self-esteem and self-efficacy for teaching (Wade, 1995), dedication to the teaching profession (Green, Dalton, &

[1] Department of Health and Human Performance, Texas State University, San Marcos TX, 78666, km66@txstate.edu; housman@txstate.edu; ac1206@txstate.edu; lani.wilcox@gmail.com.

Wilson, 1994), increased diversity awareness (Tellez, Hlebowitsh, Cohen, & Norwood, 1995), and overall affirming learning experiences (Wade & Yarbrough, 1997). In regards to assessing the relationship of service-learning and academic outcomes, evidence supports the positive impact service learning has on critical thinking skills and academic engagement (Root & Swick, 2001).

Service-learning programs have also been investigated in the discipline of physical education teacher education (PETE) (Cutforth, 2000; Domangue & Carson, 2008; Kahan, 1998; LaMaster, 2001; Meaney, Bohler, Kopf, Hernandez, & Scott, 2008; Meaney, Griffin, & Bohler, 2009; Watson, Crandall, Hueglin, & Eisenman, 2002). Findings revealed that undergraduate students participation in physical education service-learning programs result in increasing perceived competence for teaching (LaMaster, 2001), developed moral reasoning (Cutforth, 2000) strengthened cultural competence (Domangue & Carson, 2008; Meaney et al., 2008), and enhanced pedagogical content knowledge (Meaney, Griffin, & Bohler, 2009).

Within the discipline of PETE service-learning research has been limited to examining undergraduate student experiences (Cutforth, 2000; Domangue & Carson, 2008; Kahan, 1998; LaMaster, 2001; Meaney, Griffin, & Bohler, 2009; Meaney et al., 2008; Watson et al., 2002). Little, if any research has examined the potential advantages and/or disadvantages of incorporating service-learning into graduate PETE programs.

Graduate and undergraduate students differ in a number of social and academic characteristics. In addition to graduate students possessing an undergraduate degree, graduate students are generally older; a significantly higher percentage of graduate students as compared to undergraduate students are married, and 75% of graduate students work full time (American Council on Education, 2005; United States Census Bureau, 2007). Furthermore, research examining personality and psychological comparisons of graduate and undergraduate education students revealed that differences in personality traits between graduate and undergraduate students may influence preferred ways of learning (Illovsky, 2010). Consequently, pedagogical strategies (i.e., service-learning) and teaching techniques that are effective with undergraduate students may not be as valuable with graduate students.

To our knowledge, incorporation of service-learning in graduate PETE courses has not been explored. However, investigations examining service-learning in graduate course work have been conducted in the disciplines of public administration, instructional technology, and early childhood (Brescia, Mullins, & Miller, 2009; Liu & Lambright, 2010; Quinn, 2006). Participation in a project based instructional technology service-learning course enhanced graduate students' problem solving skills while simultaneously nurturing their sense of caring for others (Brescia, Mullins, & Miller, 2009). Additionally, Liu and Lambright (2010) demonstrated that the hands-on experience provided through service-learning benefitted graduate students in the learning and acquisition of professional skills. The possibility exists that graduate students in PETE might also benefit from participation in a curriculum that incorporates service-learning.

I. Theoretical Framework.

Social-cognitive theory (Bandura, 1986; 1999) suggests that human learning occurs within a dynamic framework and initiates interaction between one's personal factors, environment, and behaviors. These dynamic relationships constitute an interactive model referred to as triadic reciprocality (see Figure 1).

Within the model of triadic reciprocality, personal factors may include one's motivation, self-efficacy, knowledge, fears, and expected outcomes. The environment is perceived in three stages: imposed, selected, and constructed (Bandura, 1999). One's imposed environment includes the way things are, that is situations an individual must interact with on a daily basis (i.e., school, work, family). While individuals may have minimal influence over imposed environmental factors, they do have choices in how they interpret and react to imposed factors. These choices regarding how one reacts to the imposed environment constitutes the selected environment. The resulting behaviors, the third aspect of triadic reciprocality, become one's constructed environment. Construction of one's environment demands actively engaging in one's surroundings and may often result in the acquisition of new knowledge, beliefs, and behaviors.
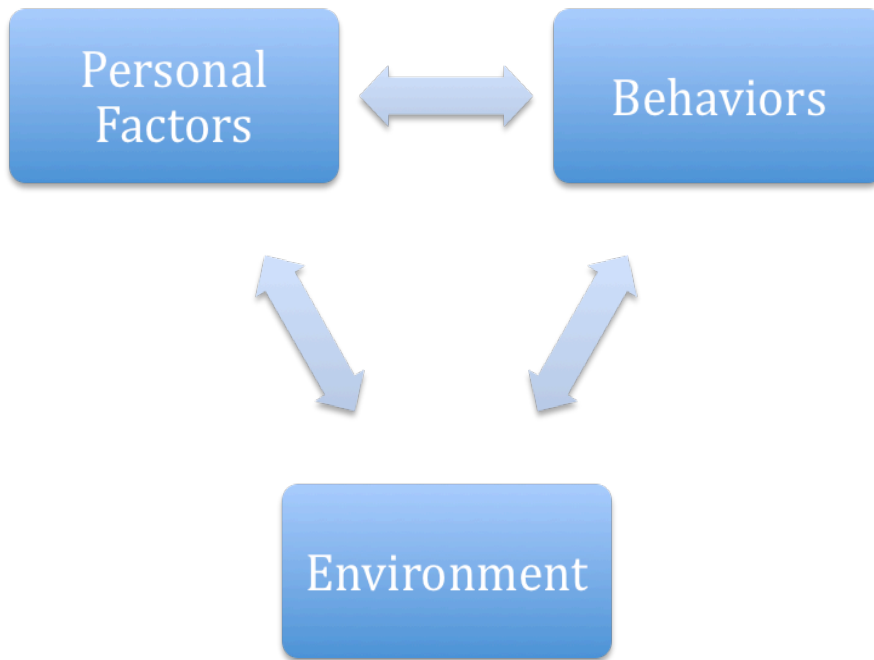
Figure 1. A model diagramming triadic reciprocality. (Adapted from Schunk [2012])

Social-cognitive theory provides researchers a paradigm to examine service-learning experiences. Previous research examining the impact service-learning has on undergraduate students in PETE has used social cognitive theory as a framework (Meaney, Griffin, & Bohler, 2009; Meaney et al., 2008). The purpose of this investigation was to extend the research encompassing service-learning in PETE programs through the examination of graduate student experiences in a service-learning program. Specifically, we explored the following research questions: a) what impact did teaching physical activity to low-income minority children have on graduate students' self-efficacy for teaching b) what effect did teaching physical activity to low-income minority children have on graduate students' cultural competence, and c) did participation in the service-learning program enhance graduate students' application of pedagogical content knowledge?

II. Methods.

A. Participants.

Graduate students enrolled in a graduate curriculum and instruction in physical education course in the Department of Health and Human Performance at a major university in the southwest United States volunteered to participate in this study. Participants included 16 graduate students (n = 11 females, n = 5 males; mean age = 25.6 years) who were enrolled in a Degree and Teaching Certification program culminating in a Masters of Education specializing in Teaching Physical Education. All of the participants held undergraduate degrees; eight were employed fulltime (i.e., 40 hours per week), 5 were employed part-time (20 - 30 hours per week), and three students were not employed.

B. Course.

The primary goals of the graduate curriculum and instruction course centered on enhancing graduate student understanding of the need for evidenced-based curriculum programs and instructional strategies in physical education. Furthermore, the course was intentionally designed to provide students multiple opportunities to design, implement, and assess physical activity instruction through participation in the service-learning component of the course. Examining pedagogical research and understanding learner variables (i.e., gender, socioeconomic status, cultural beliefs, values, geographic location) that influence participation in lifelong physical activity were also embedded throughout the course. Readings, discussions, and learning activities focused on increasing student's cultural competency for teaching. The graduate course met for three hours one night a week for a total of 15 weeks.

C. Service-Learning Program.

The service - learning component of the course enabled students to transfer theoretical concepts discussed in class into practice, while at the same time meeting local community needs. Working in teams, students planned, implemented, and assessed physical activity lessons for children between the ages of 5-12 years. The physical activity instruction was a component of the Family Fun & Fit (FFF) service-learning program. FFF is a collaborative project between the university and a local elementary school. Ford Elementary (pseudonym) is a Title I school; the majority of the children are Hispanic-American and participate in the free and reduced breakfast and lunch program; which is an indicator of the school's poverty level.

FFF was designed to be a win-win situation for everyone involved in the project. The graduate students enrolled in the curriculum and instruction class in physical education had multiple opportunities to instruct physical activity; the children enrolled in FFF could engage in developmentally appropriate physical activity in a safe, indoor environment at the school. In addition the parents and caregivers of the children engaged in health, wellness, and nutrition program delivered by students in the community health course offered by the same department via a companion service-learning project. FFF took place for two hours in the evening on a weeknight for three consecutive weeks.

D. Procedure.

Approval from the university's Institutional Review Board was obtained prior to the beginning of the academic semester. We described the FFF project during the first night of the graduate class and students were asked to volunteer to participate in the study. All students were informed that their participation was voluntary and no one would be penalized for not agreeing to take part in the investigation. We planned for the FFF service-learning project to occur between the 8th and 11th week of the semester. The graduate students collectively decided on three physical education curricula that had been presented, researched, and discussed throughout the semester to implement at FFF. The curricula were: Skill Themes & Movement Concepts (Graham, Holt/Hale, & Parker, 2009); Teaching Games for Understanding (Griffin & Butler, 2005) and Health Related Physical Fitness (Corbin & Lindsey, 2007). Working in three teams (i.e., two at five members each; one at six members) each team was responsible for delivering each curriculum one evening; all teams presented each night consequently three curricula were presented every session. In addition to creating the physical activity lesson, teams were also responsible for creating marketing materials, and registration forms.

The FFF program was held during weeks 12, 13, and 14 of the spring semester. Each night the graduate students arrived at least 30 minutes prior to the opening of FFF, prepared the registration materials, and organized the equipment and space where their physical activity lesson would occur. Three different teaching stations used throughout the duration of FFF included two stations in the elementary school gymnasium, as well as the outside play area.

Between 6:15 – 6:30 PM children and their families entered the cafeteria and registered and picked up their nametags. At 6:30 PM we welcomed FFF participants and re-emphasized the multiple purposes of FFF; 1) to provide children positive experiences in physical activity in a safe and welcoming environment, 2) to offer parents and caregivers opportunities to participate in culturally and economically relevant health and wellness education, and 3) to enable graduate student's real world experiences creating, delivering, and assessing physical activity instruction.

Following the welcome, the graduate students escorted their initial group of children to their teaching station and began the physical activity lesson. Each activity station lasted for 30 minutes and then the children rotated to the next station. When all of the children completed all three thirty - minute stations the children were re-united with their parents/caregivers in the school cafeteria for a closing session. During this time all FFF participants were offered a healthy snack (i.e., apple, orange, or banana) and also participated in a question and answer period led by different graduate student teams each night. The questions and answer period was designed to explore what the children and adults learned that night as well as what they enjoyed participating in or discussing. The closing session was also used to distribute door prizes to the participants. The graduate students had secured university t-shirts, water bottles, caps, and lanyards from various departments (i.e., athletics, physical education, bookstore) at the university to distribute to the FFF participants.

III. Data Collection and Analysis.

A. Weekly reflections and discussion group interviews.

Participants described their experiences with the children through weekly reflective narratives as well as verbal discussion groups. Group discussions were audio recorded and transcribed

verbatim. The week prior to the beginning FFF we asked graduate students to respond to specific open-ended questions via written reflective narratives. Questions were based on Social-Cognitive theory (Bandura, 1986; 1999) and designed to explore their personal factors (thoughts and feelings), their perceptions of the teaching environment (low-income Hispanic-American children), and the interaction of their personal factors and environment on their teaching behaviors (planning, instructional techniques, assessing). We conducted content analysis to identify categories from the reflections and discussion groups according to Patton's (2002) methodology.

We (two lead investigators) and two graduate students (X and Y) independently read copies of the reflections and discussion group notes several times to identify patterns and categories in the content. Following the preliminary analysis, the primary investigator and graduate student X and Y re-read—narratives and the discussion group notes. Individually, we all highlighted statements deemed salient and then independently identified patterns and formulated categories of the data sources.

Following the independent analysis, we collectively reviewed and discussed categories derived from the data. These discussions enabled us to identify and describe categories consistent among the four researchers. We then identified themes based on the following criteria: (a) Each researcher identified the category independently, and all three identified the same category; (b) the same category was identified in narratives, and discussion groups; and (c) the category was acknowledged in 60% of the responses to the directed reflective narratives.

Trustworthiness was established through confirmability audits, negative case analysis, (Lincoln & Guba, 1985) and multiple investigators (Denzin, 1970). Following the completion of the qualitative analysis, an external reviewer conducted a confirmability audit. The external reviewer was asked to place quotes from the narratives of the previously established themes. A total of 30 quotes were included in this review process and the external reviewer placed 26 quotes in the previously identified themes. Consequently, the inter-rater reliability for the external reviewer and researchers was 87%. Triangulation of the data occurred via the multiple data sources (i.e., reflections and discussion groups), as well as multiple reviewers (Pitney & Parker, 2009).

IV. Findings.

Content analysis of the data revealed three major themes: 1) the graduate students began the service-learning program with a variety of affective feelings, 2) participation in the program enabled the graduate students to design, implement, and assess instructional strategies which enhanced their teaching efficacy, and 3) getting to know and interacting with diverse children altered the graduate students pre-conceived stereotypes of low-income families and their interests in health and physical activity. Table 1 displays the identified themes and categories, identifies along with the sub-categories, the number of participants for each theme, and frequency of responses within each sub-category. The written reflective journals were used to calculate the number of responding participants and frequency of responses. We interpreted findings through the social-cognitive framework (Bandura, 1986; 1999). All names presented in this section are pseudonyms.

Table 1. Results of Content Analysis: Themes, Categories, Sub-Categories, Frequencies.

Theme	Category	Sub-Category	# of Participants	Frequency of Statements
Affective	Positive		6	
		Excited		4
		Purposeful		1
		Comfortable		1
		Interested		2
	Negative		10	
		Nervous		8
		Scary		1
		Anxiety		4
		Unsure		1
		Worried		3
Teaching Efficacy	Instructional Strategies		11	
		Show & Tell		6
		Brief Instructions		5
		Improvised Lessons		5
		Adapted Activities		7
		Monitored Learning Environment		4
	Knowing Children		9	
		Developmental Differences		4
		Personalities		6
		Connected		5
	Effectiveness		13	
		Confidence		7
		Competent		3
		Comfortable		5
Pre-Conceived Stereotypes	Low Expectations		12	
		Less Interested		3
		More Overweight		4
		Not Physically Active		6
		Free Program		3
		Little Knowledge		7

A. Affective feelings.

Social-cognitive theory (Bandura, 1986; 1999) underscores the interaction of one's personal factors (i.e., motivation, anxiety, self efficacy) with the environment (i.e., service-learning, FFF) and the impact these interactions may have on an individual's behavior (i.e., teaching physical activity). Analysis of the weekly reflections and discussion groups revealed that ten graduate students had negative thoughts and were nervous and apprehensive at the start of FFF. Nick stated; "I am a little nervous about meeting the families for the first time, I am also a little worried about the language complications we may have with some families." Denise shared; "The elementary school is a new environment and by nature that is going to make you nervous, I love meeting new people but I feel really nervous to meet the families for the first time because it's going to be a lot of people at one time." Kimberly expressed the following:

> To meet the families for the first time is nerve racking. It is like jumping into the deep end of a swimming pool for the first time, I do not really know what to expect. Is it going to be hard? Are the children going to enjoy the activities? Do I know what I am doing? I do not want to look like a failure.

On the other hand six graduate students shared positive thoughts about beginning the Family Fun & Fit program. Sean stated "I have no apprehensions about our initial meeting; I am excited and comfortable to meet the children and families and demonstrate how fun fitness can be." Michelle shared:

> Meeting the families for the first time is very exciting, language may be the only significant barrier, I feel a little nervous but I believe our class is up to the challenge. I know the best way to deal with this nervousness is to get right in the activities and be enthusiastic; despite being a little nervous I am very excited to be in the gym and see our semester in action. I am excited about seeing what works and what does not work.

Luke expressed the following; "I feel that I have developed a strong sense of leadership and comfort when it comes to working with children. I also feel confident in my abilities to get them (the children) excited and motivated about physical activity."

Acknowledging that graduate students embrace a wide array of affective emotions prior to teaching is an important component of social-cognitive theory (Bandura, 1986; 1999). Personal factors such as nervousness, anxiety, excitement, and motivation have the potential to positively and/or negatively influence the graduate student's teaching experiences. Faculty instructing graduate curriculum and instruction classes need to identify strategies to harness and funnel these emotions in ways that benefit both the pre-service educators and their students. For example, formulating teaching groups with a combination of highly anxious and highly confident graduate students may assist in balancing the emotional make up of the instructional group. Engaging in discussions addressing and acknowledging pre-teaching emotions may be valuable to all students.

B. Teaching efficacy.

The second major theme revealed through the analysis was that despite the graduate student's initial nervousness and anxiety the apprehension dissipated. In turn, it appears that thirteen of the graduate student's self-efficacy and confidence for teaching grew stronger throughout their

participation in the program. Weekly interaction with the children provided nine graduate students a venue to become familiar with the children. Brian stated:

> When you get to know the children, you get a better idea of how to handle them to get them to participate. The first week, I had a small child Santiago who cried the entire time he was in our group. Eventually I got him to participate by doing it first and showing him how much fun it would be, I had to try several different ways of displaying this in order to convince him, but eventually, I found a way to connect with him. The second week, I immediately went to my successful strategy. Getting to know the children was essential to our success as facilitators.

Previous research examining undergraduate students experience in service-learning supports the important role undergraduates place on getting to know their students (Meaney et al., 2008). Likewise, nine graduate students also perceived this process as valuable. Becoming familiar with the children participating in FFF enabled the pre-service educators to feel "connected" to the students. Connecting with the children aided the pre-service educators with motivational and instructional strategies.

In addition to getting to know the children, participation in the weekly program created a forum for eleven graduate students to explore various teaching techniques. Martha stated; "I realized that giving short and quick to - the - point instruction about the activity worked better that trying to go into detail about different aspects because when we started talking too much the kids didn't pay attention." Effective communication techniques are critical components of the teaching-learning process (Rink, 2010). Beginning physical education teachers often struggle to find the appropriate amount of verbal instruction. Excessive instruction often minimizes student's practice and participation time that can result in students less skilled performance. It appears that participation in the service-learning program enhanced eleven of sixteen (68%) graduate students understanding of the importance of effective instruction and demonstration techniques.

The graduate students also highlighted the importance of embracing flexibility and adaptation when instructing physical activity. Josie stated:

> At first I felt overwhelmed with the activity because it was not going the way we had planned. We made a few adjustments and with these adjustments I began to see as a teacher you have to be more apt to change things that do not seem to be working. I was gaining hands on experience showing the reasons not to be rigid in my teaching and it was refreshing to see that I was able to adapt and have a good lesson at the same time.

Kirk revealed; "We improvised and changed the lesson because no matter how much we plan out every detail, things will never turn out exactly as planned." Monitoring the learning environment and adapting the tasks and environment to best meet the individual needs of students is a critical component of effective physical education instruction (Rink, 2010). Teachers need to appropriately increase and/or decrease the level of task difficulty based on student's motor skill performance. The graduate students instructing physical activity at FFF had repeated opportunities to take the lead in adapting activities to enhance their students' success.

Participation in the service-learning program also positively impacted 13 of the graduate students' efficacy towards teaching. Representative statements include the following; "We gained a little confidence after the first night (Josephine)," "Everyone was so much more confident and relaxed (Mark)," "I feel more capable of promoting physical activity (Katie)," "I

feel fairly competent in my own ability to practice the promotion of physical activity (Audra)," and "I feel my ability to promote physical activity will continue to grow with practice (Mark)."

Self-efficacy is a principle tenet of Social-Cognitive theory, (Bandura, 1986; 1999). Bandura described self-efficacy as one's perceived capabilities towards completion of a particular task. In regards to teachers, Bandura suggests that teachers with high levels of self-efficacy will demonstrate greater levels of tenacity, engage students in more problem solving challenges, and work harder than teachers who are less efficacious. Consequently, providing pre-service teachers with opportunities to increase their self-efficacy for teaching is critical.

C. Pre-conceived stereotypes.

Analysis of the weekly reflections and discussion groups also highlighted the significant influence participation in FFF had on twelve of the sixteen (i.e., 75%) graduate students' previously held beliefs and attitudes encompassing children and families from low income backgrounds. Stacey reported:

> My perception of the families did change. Before we started the program, I thought the families would be coming to FFF because the program was free. However, the families were excited to learn about health and wellness. The children and adults were eager to participate in our activities and homework assignments.

Mark's comments included:

> My experience at FFF was eye – opening. I learned people from low socio-economic backgrounds do not have the knowledge and resources to make healthy and smart choices on a shoestring budget. When we gave the families fun activities for the family games, and homework the families were able to engage in physical activity which they spend little to nothing to participate, I feel this was the most surprising thing I learned, if you give these families ideas, games, and resources they will feel like being as active as possible.

Jackie revealed:

> I have to admit before FFF I wasn't expecting the participant's to be this energetic and cooperative. I wasn't expecting these kids would actually enjoy running and sweating; many of them didn't give up and stayed to the end of every game. These perceptions all changed after this program. The families who wanted this to work for their families were there early and stayed late. I feel this is most surprising because I did not expect families to be so committed.

Allen stated:

> My perceptions of individuals from low-socioeconomic backgrounds has changed because of this service-learning project. I guess I thought that because they (the FFF participants) typically have a lower household income and are generally more overweight, that they are less interested in exercise and living a healthy lifestyle. But in fact, every parent I spoke to was very passionate about their child relearning the proper diet and exercise habits now in order to combat the diseases that typically accompany sedentary lifestyle.

Providing graduate students avenues to alter pre-conceived stereotypes of diverse communities is essential in the process of developing culturally responsive teachers (Ladson-
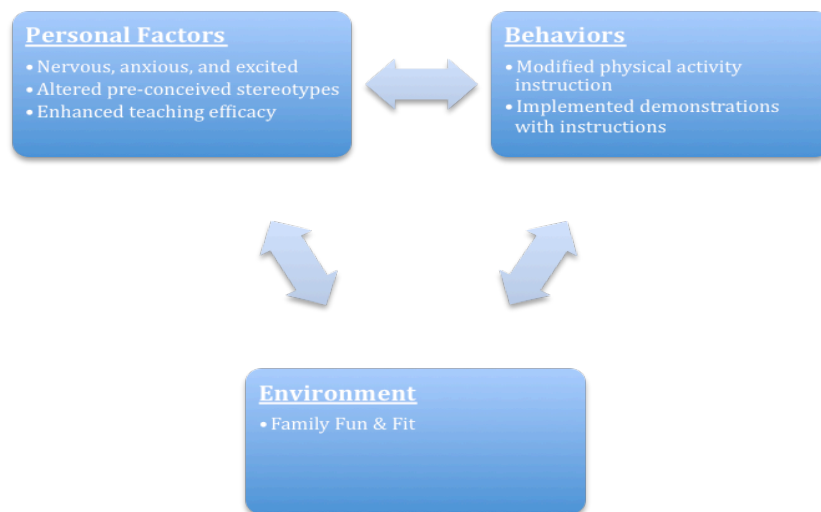
Billings, 1994). Understanding the needs of diverse students is crucial given the broad range of race, ethnicities, culture and socioeconomic strata in today's schools.

V. Discussion.

This study was designed to explore the impact of participation in a service-learning program on graduate physical education teacher education students. We purposely attempted to answer the following research questions: a) what impact did teaching physical activity to low-income minority children have on graduate students' self-efficacy for teaching b) what effect did teaching physical activity to low-income minority children have on graduate students cultural competence, and c) did participation in the service-learning program enhance graduate students' application of pedagogical content knowledge?

Based on Social-cognitive theory (Bandura, 1986; 1999) we examined the interactions of the student's personal factors (self-efficacy, knowledge), the environment (teaching physical activity to low-income minority children) on graduate pre-service educators behaviors (teaching techniques and strategies). Findings suggest that graduate students reaped numerous benefits from participation in the FFF service-learning program. Specifically, the majority of graduate students reported that participation in FFF strengthened their efficacy for teaching physical activity (i.e., 82%), provided multiple opportunities to implement varied teaching techniques (i.e., 68%), and altered their pre-conceived stereotypes of children living in low-income families (i.e., 75%) (see Figure 2).

Bandura (1986; 1999) proposed that an individual's personal factors (i.e., knowledge, feelings, attitudes) interact with one's environment and consequently initiate a process that mandates the individual actively engage in the learning process. The graduate students reported a wide array of affective feelings at the start of the program. Emotions ranged from nervousness and anxiety to excitement and motivation. It appears that the FFF setting was one that enabled the graduate students to work with and through their emotions to create developmentally appropriate physical activity lessons for the children.

Personal Factors
- Nervous, anxious, and excited
- Altered pre-conceived stereotypes
- Enhanced teaching efficacy

Behaviors
- Modified physical activity instruction
- Implemented demonstrations with instructions

Environment
- Family Fun & Fit

Figure 2. A model diagramming triadic reciprocality during graduate student participation in service-learning. (Adapted from Schunk [2012])

Specific to the first research question exploring the impact of participation in the service-learning program on teaching efficacy, findings support the graduate students' strengthened efficacy for teaching. Scholars in teacher education have defined teaching efficacy as "the extent to which the teacher believes he or she has the capacity to affect student performance" (Berman, McLaughlin, Bass, Pauly, & Zellman, 1977, p. 137). Research has demonstrated that a teacher's level of self–efficacy is correlated with student achievement (Ashton & Webb, 1986; Bolshakova, Johnson, & Czerniak, 2011; Lumpe, Czerniak, Haney, Beltyukova, 2012) commitment to teaching (Coladarci, 1992), teacher motivation (Midgley, Feldlaufer, & Eccles, 1989; Wood & Olivier, 2008), and novelty in instruction (Stein & Wang, 1988). Participation in the FFF service-learning program positively impacted the graduate students' levels of teaching efficacy. Particularly important to note is the reciprocal interaction of enhanced teaching efficacy and adaptation of instructional strategies. Providing the graduate students multiple opportunities to teach the children positively contributed to their heightened efficacy (i.e., personal factors), which transferred to promoting effective instructional strategies (i.e., behaviors). This finding supports Bandura's model of triadic reciprocality (Bandura, 1986) and previous research that demonstrated the positive impact participation in authentic field-based experiences had undergraduate students' efficacy for teaching physical education (Gurvitch & Metzler, 2008).

Social-cognitive theory (Bandura, 1986; 1999) emphasizes the potential role one's environment may have in influencing learning and behaviors. The FFF program served as the graduate pre-service educators' imposed environment. Teaching physical activity to Hispanic-American and African-American children from low-income families was mandated through enrollment in the graduate curriculum and instruction course. However, the manner in which the pre-service educator chose to engage in the environment constituted their selected environment that resulted in the pre-service educators constructed environment.

Our second research question focused on examining the effect of participation in the FFF program on graduate students' cultural competence for teaching. Allowing graduate students to construct their environment provided a forum to alter their pre-conceived stereotypes encompassing minority children from low-income families. Shattering stereotypes is a critical factor necessary to nurture culturally competent and responsive teachers. Ladson-Billings (1994) underscores the importance of developing teachers that are culturally responsive and proposes that teachers that are culturally responsive hold high self- esteem as well as a profound respect for their students and their families. In addition, culturally responsive teachers believe that all students can achieve success.

Participation in the FFF service-learning program provided a forum for the graduate students to get to know and interact with diverse children. These interactions enabled the graduate students the opportunity to change their perceptions of low-income children and families. Because the majority of beginning teachers enter educational settings where approximately 75% of students are raised in low-income families, it is imperative that teacher education programs provide pre-service teachers multiple and varied opportunities to interact with children and adolescents from varied ethnic, racial, and economic backgrounds (National Collaborative on Diversity in the Teaching Force, 2004).

Our third research question explored the influence of participation in the FFF program on graduate students' application of pedagogical content knowledge. Sixty–eight percent of the graduate students reported specific examples of their increased ability to apply instructional techniques discussed in class to the authentic teaching environment. The necessity of providing "show and tell" demonstrations to benefit children's cognitive understanding of the verbal

instructions was perceived by the graduate students as a valuable result of participation in the program. Similarly, the graduate students also came to realize the need for brief instructions when working with elementary-aged children. The FFF constructed environment also presented multiple occasions for the graduate students to modify and alter their activities to better meet the needs of the children. Application of pedagogical content knowledge via PETE service learning programs has been documented with undergraduate students (Meaney et al., 2009); findings from this study document the positive impact participation in service learning also has on graduate students application of pedagogical content knowledge.

Taken collectively, findings from this study suggest that participation in a service-learning program positively impacted graduate students' efficacy for teaching, acquisition of instructional strategies, and cultural competence. Of particular importance is the unique contribution this investigation makes to the service-learning literature. While previous studies in PETE have explored the impact of service-learning with undergraduate student populations' experiences (Cutforth, 2000; Domangue & Carson, 2008; Kahan, 1998; LaMaster, 2001; Meaney et al., 2008, Meaney, Griffin, & Bohler, 2009; Watson, Crandall, Hueglin, & Eisneman, 2002), this was the first study to exam the effect of participation in service-learning with graduate PETE students. Even though graduate and undergraduate students differ in academic, social, and life experiences variables, participation in the FFF service-learning program provided valuable learning experiences for graduate PETE students. Consequently, both graduate and undergraduate teacher preparation programs should include service-learning experiences within the prescribed curriculum.

While findings from this study contribute to the knowledge base encompassing service-learning, it should be noted however, that this investigation reports and interprets the findings solely from the perspective of the graduate students. This is certainly a limitation of the study. Future research examining service-learning programs in teacher education should consider including assessing the benefits and/or disadvantages of participation in service-learning program by the children, families, and school personnel.

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