Kelly L. Heider · *Editor*

Service Learning as Pedagogy in Early Childhood Education

Theory, Research, and Practice

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Foreword

"This changed my life." "I want to give back." "Follow your dreams." Such statements have been invoked so often by so many about inconsequential matters that they have become hackneyed. Evidently, even in the absence of genuine transformative learning, people continue to recognize that such experiences represent the very pinnacle of the education process. As this book will cogently argue, service learning is a major way to accomplish deep, integrative learning that teaches and transforms (National Survey of Student Engagement 2015).

The concept of service learning has existed for centuries. As the words "service" and "learning" suggest, there are two main components in order for an activity to qualify. First, the activity must be perceived as helpful to the intended recipient (service), and second, the experience needs to enrich and enlarge understandings and insights (learning). Benefits of service learning are reciprocal. The person performing the service benefits by gaining experience and acquiring skills and a sense of satisfaction from the contributions made. Those on the receiving end of the service benefit from the resources, experiences, and interactions planned and delivered.

To further clarify service learning, it is helpful to specify what it is not. A first-grade teacher plans a visit to a nearby nursing home with her students to celebrate Halloween. The facility is a short walking distance from the school, so the children wear their costumes and walk through the meeting room while the residents distribute candy. Although this might be a pleasant diversion for participants, this activity fails to qualify as service learning for several reasons: the interaction is very brief, the activity is superficial, the holiday focus is questionable, reflection is not promoted, and no assessment occurs. Contrast this with another teacher's approach. She has established a pen pal program between her first graders and the residents of a nursing home. Through this activity, the children learn about themselves as well as about the elderly and physically infirmed; they also begin to see that, even as children, they have the power to elevate the mood of the residents and form a bond with them. Likewise, the residents of the facility who volunteered to participate in the program draw upon their wisdom and experience—perhaps many years of raising children and grandchildren—to connect with a young child. They

delight in the children's efforts to communicate through writing, post the pictures the children have drawn in their rooms, and have something interesting to talk about with fellow residents and staff. The teacher continues to develop the project further by asking the nursing home staff and residents to complete a brief survey. Back in the classroom, a volunteer interviews children by discussing their weekly drawings and writings related to the project. The teacher uses this input to improve the program; for example, she noted that better preparation for the first visit could be accomplished by first sharing picture books about the elderly with her students. On their surveys, some of the residents and staff members asked if the children could present something as a group. In response, the teacher plans a readers' theater based on the big book of Mem Fox's (2008) *Wilfred Gordon MacDonald Partridge*, the story of a young boy who makes friends with the residents of a home for the elderly. In addition, the children sing a song together on their first meeting and as part of their culminating activity. Both the service and the learning increase over time.

Lilian Katz (1988) has proposed that there are four types of learning: knowledge, skills, dispositions, and feelings. While service learning rests on a foundation of knowledge and skills, a service orientation depends heavily on the other two types: dispositions and feelings. Dispositions as habits of mind are ingrained and characteristic ways of responding. Take, for example, the disposition to offer assistance to a person in distress. Even toddlers will do this if they have had many opportunities to see significant adults helping others, if the signs of distress are sufficiently apparent, and if they are reinforced for emulating care and concern (Davis 1994; Eisenberg 1992; Hoffman 2000). Toddlers are perhaps the least well-equipped to be of service, given that they are dependent themselves, yet when they see a peer in distress, they often enlist their own parent to help or direct the child to a caring adult (Roth-Hanania et al. 2011). Dispositions are complex, and as is the case with many of life's most enduring lessons, they are acquired over an extended period of time from people who exemplify the positive trait.

The fourth type of learning, feelings, is foundational to developing a service orientation as well. In fact, feeling empathy is the cornerstone of service learning. Contemporary definitions of empathy extend well beyond merely acknowledging others' emotions. In order to be empathetic, a person needs to identify with emotions experience by someone else, to select an appropriate response, and to take positive action that is perceived by the recipient as helpful (Decety and Ickes 2009; Vreeke and van der Mark 2003). A 3-year-old at a wedding reception exemplifies this dynamic. When an elderly woman with a walker arrived late, she paused to catch her breath from the exertion and stood in the doorway to scan for an empty chair nearby. The preschooler looked at her Great Aunt's face and rushed over to greet her. Then, in a very solicitous tone of voice, the child asked, "Do you want to sit down, honey?," and ushered her aunt to a chair. This incident became a family story that was shared many times. The role reversal of the situation was amusing, and the child's gentle sweetness—combined with her "take charge" attitude—was valued and reinforced. This preschooler had learned to be perceptive about others' feelings by having her feelings recognized. Helping others became part of this

child's identity, and, even in elementary school, she was definite about the career that she wanted to and ultimately did pursue: nursing. Dispositions and feelings forged that service orientation.

Unfortunately, even when the intentions behind a service-learning initiative are the best, this does not necessarily "translate" into effective programs. If the program organizers and the learners do not reflect/discuss and the evaluation is not built in, there is a tendency to drift away from the original purpose. One middle school teacher experienced this first hand. Out of a sincere desire to help the local animal shelter, she led a group of children in volunteering at the facility on Saturdays. At first the students did what was expected: they played with the cats, helped to exercise dogs, and took photos/wrote descriptions of animals available for adoption. However, as the program continued, the project began to devolve and enthusiasm waned. Breaks got longer. Students were preoccupied with their cell phones and other electronic devices. Attendance dropped off. The teacher grew tired of nagging and was disappointed by the outcomes. She wanted to blame everything on the students' immaturity, but, on further reflection, she identified some problems with her approach. First of all, she had not modeled the desired behavior effectively. In fact, she had to admit that she spent much of the time chatting with shelter personnel as the children performed the various duties rather than working alongside them. Secondly—and this was particularly hard to face—the teacher had to ask what was learned by the children when the project fell apart. They may have learned that commitments are transitory, that personal pleasure supersedes need, and that their teacher now regarded them as failed volunteers. Good intentions are necessary, but not sufficient, to produce an effective service-learning experience. It can go awry, despite initial enthusiasm.

Sometimes, service learning is stalled before it ever begins; it never gets past the stage of hopeful dreaming. What stands in the way? Ask people why they don't volunteer in their communities and the predictable response is that they are too busy. This begs the question, "Busy doing what?" On average, 8–18-year-olds in the United States spend nearly 7.5 h per day using entertainment media, but, because they use multiple media at once, they actually pack nearly 10 h of "screen time" per day (Kaiser Family Foundation 2010). On average, 4.5 h per day is spent watching television (Kaiser Family Foundation 2010). These habits become ingrained and persist, with many children and adults devoting the equivalent of several years of waking life to entertainment media. People who are involved in service activities in their communities have not found a way to manufacture more time; rather, they have allocated their time differently. Why did they do this? In most cases, it is a confluence of variables, such as religious faith, the influence of powerful mentors and role models, strong intrapersonal and interpersonal intelligence, and/or participation in a group of other service-oriented individuals. In recognition of the forces that shape a commitment to service, this edited book asks, "What would happen if, instead of waiting until children are much older, we began service learning during early childhood in developmentally-appropriate, educationally-effective, and culturally-responsive ways?" The authors

of this volume are unified in advocating that service learning can and should commence much earlier than assumed by the general public. As the distinguished group of contributors to this edited book so amply documented, early childhood educators have the wherewithal to implement effective service-learning projects with the very young. To do otherwise runs the risk that a service orientation will fail to be developed, that volunteerism will not be valued, and that the majority of our next generation of citizens will choose entertainment over civic engagement.

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Contents

Chapter 1
Integrating Service Learning into Early Childhood Teacher Education: A Theoretical Perspective

Ithel Jones

Abstract Service learning is defined as a teaching and learning method that connects meaningful community service with academic learning, personal growth, and civic responsibility. In recent years, service learning has been presented as an effective pedagogy for early childhood education. This chapter will present a rationale for integrating service learning into early childhood education. Theoretical perspectives drawn largely from cognitive psychology and social learning theories will be considered along with national standards for effective practices in early childhood and teacher education. Then, drawing on these theories, principles for effective integration of service learning into early childhood teacher education will be outlined.

Keywords Service learning • Early childhood education • Teacher education

Miss Franklin's first grade class just completed a service-learning project that combined a science lesson with art. The children planted seeds in some compost and observed them as they germinated grew stems and leaves and finally brightly-colored flowers. While their plants were growing they used paint to decorate the flower pots. Then they took these unique gifts and presented them to senior citizens residing in a home adjacent to their elementary school. The teacher asked the students what they learned from the project and how what they did was helpful. In reflecting on their service-learning project the first-grade students demonstrated the wealth of knowledge they had gained and they showed that they could readily empathize with others who are less fortunate

"I learned that we should be nice to people and that giving someone a present makes them feel better."

"I liked painting the pots, and we had fun making a present for someone."

"It made the senior citizens smile because someone cared about them."

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"My seed grew into a beautiful flower. It was fun because we got to paint a pot."
"I learned that we can help people and make them feel happy."

Introduction

In the vignette above, the first-grade teacher enriched her lessons by integrating service learning into her teaching. She learned that a service-learning pedagogy is a powerful approach that can make learning more meaningful and relevant to students. Here, the teacher combined academic learning objectives with community service and reflection. In doing so, she engaged the students in critical thinking and problem solving while creating a caring and nurturing classroom environment. In turn, she was able to foster and support the development of empathy in her students.

During the last decade, an increasing number of early childhood teacher education programs in the United States have integrated service learning into their courses. Various approaches and strategies have been documented in the literature such as infusing service learning in a "cascading model" within and across early childhood curriculum and methods courses (Lake and Jones 2008), engaging in service learning within practicum experiences (Maynes et al. 2013), or including service learning within stand-alone units or courses (Carrington and Saggers 2008). While there may be many reasons for the renewed interest in integrating service learning into teacher education courses, it seems that the general consensus of opinion is that service learning allows teacher candidates to connect theory and practice in ways that enhance their teaching skills (Chambers and Lavery 2012; Lake and Jones 2012). It is believed that successful service learning in early childhood teacher education can contribute to effective public school or preschool practice. This is because it is a versatile approach that can be effectively applied in a variety of educational settings across a wide range of age groups. Simply put, it is an approach that connects meaningful community service, academic learning, and personal growth.

This chapter examines the uses and applications of service learning in early childhood teacher education and considers the theoretical rationale for infusing service learning into teacher education programs. In order to critically analyze the relevant theoretical perspectives, it is first necessary to consider the definition of service learning.

What Is Service Learning?

Service learning has been described in the literature as both an instructional approach and a philosophy. Viewed as an instructional approach, service learning connects and combines community service activities with academic learning (Anderson 1998). It is a method that facilitates student learning through active

participation in organized community service. Typically, the service component is designed to meet the needs of communities. Then, by engaging in such community service, students develop civic responsibility. Jacoby (1996) succeeded in capturing the essence of service learning: "service learning combines service objectives with learning objectives with the intent that the activity changes both the recipient and the provider of the service" (p. 5).

A related definition considers service learning from a philosophy of learning perspective. Viewed from a philosophical standpoint, service learning is based on the premise that learning experiences should be experiential, life-centered, and relevant to the learner. Those who promote service learning believe that education should move the student toward self-directed learning. Arguably, the most critical element of a service-learning philosophy is that education should include the development of social responsibility. To this end, service-learning activities are typically structured so that students learn about the larger social issues that underlie the problem or issue they are investigating.

There are other definitions of service learning in the literature. While there is no one specific or official definition, the position outlined in the National Community Service Act of 1990 seems to have been adopted by most proponents of service learning in educational settings, including teacher education. According to this act, service learning is a method:

(A) Under which students learn and develop through active participation in thoughtfully organized service experiences that meet actual community needs;
(B) That is integrated into the students' academic curriculum or provides structured time for a student to think, talk, or write about what the student did and saw during that service activity;
(C) That provides students with opportunities to use newly acquired skills and knowledge in real-life situations in their own communities; and
(D) That enhances what is taught in school by extending student learning beyond the classroom and into the community and helps to foster the development of a "sense of caring for others." (p. 13).

While these definitions of service learning would be of interest to those who are involved in early childhood education, it is probably the inherent nurturing and caring elements that are most appealing. According to Cathryn Berger Kaye (2010), the real value of service learning is that it connects school-based curriculum with the inherent caring and concern people have for the world. One important goal of most early childhood professionals is to nurture caring relations in children and adults. An emphasis on caring is evident in many early childhood practices such as affective teaching, family engagement, and activities that support the development of children's pro-social skills (Noddings 1992). Service learning is also an approach that reflects principles outlined by the National Association for the Education of Young Children (NAEYC) in its position on developmentally-appropriate practices (Copple and Bredekamp 2009). Since service learning closely reflects the basic tenets of developmentally-appropriate practices, the recent proliferation of service learning in early childhood education is hardly surprising. Yet, despite its appeal,

the adoption of service learning in teacher education seems to be at odds with the current emphasis in the United States, as well as other countries, on standards-based, accountability-driven classrooms.

In recent years, teacher education programs in the U.S. have become increasingly scrutinized. Various reports claim that teacher education programs are inadequately preparing their graduates to meet the realities of today's classrooms, where the primary measure of success is student achievement (Levine 2006; Walsh 2001). National and state policies governing the preparation of public school teachers are debated by policymakers and educators as well as the media. The claim that too many of our teacher education programs are "mediocre" has led to proposals that the solution is to implement market-based reforms. It follows that teacher educators should carefully examine and evaluate the various approaches they use so that they can present a strong and theoretically-sound rationale for their inclusion. As an increasingly-popular approach by early childhood teacher educators, it is, therefore, important to reconsider the rationales and theoretical underpinnings of service learning in early childhood teacher education.

A Rationale

In considering the role of service learning in teacher education, perhaps the most important consideration is the extent to which it supports the beginning teacher in ways that will enhance children's achievement in school. While the extent to which service learning leads to measureable gains in student learning is an important consideration, the realities of teaching and learning are much more complex. Indeed, teaching young children is a highly complex and challenging activity. As noted by Leinhardt and Greeno (1986), "the task of teaching occurs in a relatively ill-structured, dynamic environment" (p. 75). Early childhood classrooms are characterized by spontaneous and often unpredictable activity. The teaching performance is, by necessity, informed and driven by an ever-changing classroom context. The changes in classroom events and conditions are often unpredictable, which perhaps explains why classroom teachers can make hundreds of non-trivial decisions each day working with children (Good and Brophy 1994; Jackson 1990).

Arguably, service learning prepares prospective teachers for the realities of early childhood classrooms. According to Kaye (2010), service learning can support pre-service teachers in areas such as leadership, community engagement, and collaboration. By engaging in appropriate service-learning activities, pre-service teachers enhance their critical thinking and nurture problem-solving skills that will prepare them for their future roles. Moreover, service learning provides pre-service teachers with experiences that can nurture introspection of personal bias.

The typical service-learning process takes students through the stages of Investigation, Preparation, Action, Reflection, Demonstration, and Evaluation (IPARDE). The investigation stage is where students use critical thinking to analyze community needs and assets and student interests, skills, and talents. The next stage is where

the students engage in preparation. This involves acquiring knowledge and skills aligned with academic objectives so that students are positioned to take action through service. Here, they also should collaborate with community partners to create a service plan that addresses the identified community need. Following the preparation stage, students are ready to take action. Here, they engage in meaningful and creative service that enhances learning and provides guided practice in social responsibility. The next stage involves reflection and the communication of feelings, experiences, and learnings. This is followed by demonstration where students showcase the service-learning experience and demonstrate insights and outcomes to the community. The final stage is that of evaluation. This important closing stage is where student learning and the service-learning experience is assessed as a whole to identify successes and areas for improvement.

This IPARDE framework for service learning involves the use of various types of reasoning as appropriate to each relevant situation. That is, the service-learning experience engages students in critical thinking and problem solving. For example, in addressing a community need or issue, students are placed in situations where they have to make judgements and decisions. In doing so, they collaborate with peers to effectively analyze and evaluate evidence, claims, and beliefs. They also analyze and evaluate major alternative points of view and synthesize and make connections between information and arguments. Then, evaluation and reflection require students to interpret information and draw conclusions based on the best analysis. That is, they are placed in situations where they are required to reflect critically on learning experiences and processes.

While such experiences can help prepare early childhood teachers for the complexities of early childhood classrooms, they can also contribute to other aspects of public schools in the twenty-first century. Demographics in today's schools have shifted toward greater ethnic and linguistic diversity. This means that teacher education programs have to prepare future teachers so that they can be effective with all learners. Engaging pre-service teachers in curricula of multicultural theory through service learning can focus attention on diversity and emancipatory pedagogy. Engaging in such service-learning activities can also create an appropriate context for students to examine in-depth personal bias and racism. In turn, this personal reflection and examination of personal bias can help students understand the meaning of diversity. Then, consideration of social justice will require pre-service teachers to critically analyze social and environmental injustices that can influence and shape the teaching and learning enterprise. In sum, service learning in early childhood teacher education promotes deeper understanding of social justice.

Service learning is also considered an approach that can build a community of learners. Early childhood teachers do not operate in isolation, and they are expected to work as part of a team that can include various professionals, family members, and community volunteers. It follows that teachers need to be effective communicators and team members. Engaging in a service-learning project, pre-service teachers are placed in situations where they have to work collaboratively with others. In doing so, they develop, implement, and communicate new ideas to others. Moreover, they have to be open and responsive to new and diverse

perspectives. This involves clear communication and the articulation of thoughts and ideas effectively using oral, written, and nonverbal communication. A related skill is the ability to listen effectively so that they can decipher meaning and intentions in diverse environments. By assuming shared responsibility for collaborative work, and learning to value individual contributions, pre-service teachers develop skills that can support their roles as early childhood educators.

The skills described above, though critical for those who work with young children and their families, are not easily measured using traditional assessment instruments. Another related characteristic of effective teaching that is not easily measured is teacher empathy. Most early childhood teacher education programs acknowledge that empathy is important for teacher effectiveness, and they seek ways to incorporate empathy into teacher preparation. As diversity increases, the need for teachers to be able to empathize with children and families who are different from themselves also increases. An empathetic disposition is considered an important characteristic of teachers who work in diverse settings. This is because this characteristic is associated with sensitivity to different cultures (Germain 1998). An empathetic disposition is considered a key characteristic of teachers who are most likely to be effective in diverse urban settings (Darling-Hammond 2000). It is believed that empathetic individuals are able to adopt the perspective of another culture and, in turn, respond to another individual from that person's perspective (Goleman 1998). Clearly, in preschool or kindergarten classrooms, it is important that teachers respond to the students from their unique perspectives. Relatedly, they should be able to foster and nurture the development of empathy in their students.

Beyond these reasons for including service learning as a component of early childhood teacher education, preparing teachers to use service learning as pedagogy with their own pre-k to third grade students, or 3 to 8-year-old children, is also relevant. We now know that service learning can be an effective approach in the education of young children (Lake and Jones 2012). In the early grades, service learning is considered far more than experiential learning. The appeal of service learning with young children probably stems from the fact that it reflects principles outlined by the National Association for the Education of Young Children (NAEYC) in its position on developmentally- appropriate practices (Copple and Bredekamp 2009). The application of this popular perspective of early learning manifests itself as a child-centered, developmental approach. It is based on the simple, yet powerful, notion that children learn best by actively constructing their own knowledge through interacting with materials, peers, and adults. This pedagogical approach strives to make learning meaningful for the child by adopting and implementing practices that reflect both the child's age and individual needs. Using a developmental approach, teachers provide opportunities for active, hands-on learning, conceptual learning that leads to understanding, and meaningful and relevant learning experiences. Practices that emphasize these qualities reflect the basic tenets of a service-learning approach. It follows that using service learning in teacher education programs can help students learn and understand appropriate practices for teaching young children.

Clearly, there are compelling reasons for including service learning in early childhood teacher education. At best, however, a rationale for service learning in early childhood teacher education can only be subjective. The true value of a service-learning approach with pre-service teachers can only be established by examining relevant empirical evidence. While there are many reports of an anecdotal nature concerning the benefits of service learning in early childhood teacher education, the research literature is still in its infancy. There is clearly a need for well-designed research studies that focus on service learning in early childhood teacher education. Relatedly, future studies should be based on a theory or knowledge base composed of findings from previous studies. Here, theory is essentially a well-developed explanation of how service learning in early childhood teacher education works, using a framework of concepts, principles, and hypotheses.

A Theory of Service Learning

The need for a theory of service learning was first recognized more than two decades ago (Gyles and Eyler 1994). Initial attempts at developing a meaningful theory of service learning drew on the work of John Dewey (1916). Dewey's pragmatic philosophy has probably done more than any other theorist or philosopher to legitimize service learning by securing a semblance of academic credibility to service-learning research and practice. Proponents of Dewey's theoretical perspective maintain that service learning is a form of experiential learning that relies on reflection. Since Dewey's philosophy connects knowledge to experience, it offers a plausible theoretical rationale for a pedagogy of service learning. However, it is Dewey's social philosophy concerning reflective activity, citizenship, community, and democracy that is most appealing to service-learning advocates. For Dewey, education is a social process, and learning and knowing emerge from quality experiences.

This theoretical perspective also draws on Kolb's (1984) conceptualization of Dewey's process of experiential logical inquiry. According to Kolb (1984), the experiential cycle consists of four stages involving concrete experiences, reflection, and abstract conceptualization. Service learning engages students in this cycle in which action and experience in a community setting creates the context for written and oral reflection. Citing claims that Kolb's model is "too ambiguous" (Cone and Harris 1996), educators turned to cognitive theories of learning, philosophy, and critical pedagogy. According to Cone and Harris (1996), a theory or model of service learning should take into consideration the needs and intellectual growth of both the student or learner and the community. Their service-learning model sought to bridge theory and practice by including the personal, psychological, interpersonal, and socio-cultural nature of service learning. The resulting six-stage lens model is grounded in the theories of Bruner (1968), Gardner (1987), and Vygotsky (1978), and others.

The work of Paulo Freire ([1970](#)) is also invoked by service-learning advocates as a compelling theoretical rationale for service learning. The Brazilian educator's critical pedagogy maintains that education should not only nurture the intellect but also promote emancipatory change. Freire's famous "banking" analogy was a criticism of traditional education and the basis of his call for education that liberates the individual. According to Freire, pedagogy connects learning to social change and challenges students to critically engage with the world.

Several aspects of Freire's work seem significant and relevant to consideration of the theoretical underpinnings of service learning. First, Freire was concerned with praxis, or action that is informed. For Freire, praxis entailed a recursive cycle of action and reflection. The importance of this process is that it enhances community and builds social capital and leads to action for social change. Second, Paulo Freire maintained that educational activity should be situated in the lived experience of participants. Clearly, this is a perspective that resonates well with service-learning advocates. Finally, the third aspect is the emphasis on dialogue, a process that involves individuals working together and individual reflecting and acting on reality.

Service-learning educators whose theoretical perspective draws on the work of Freire most likely believe that education should be rooted in personal experience. Their philosophies of education are centered on the core concepts of problem solving, communication, reflection, social action, and transformation. In sum, they view education through Freire's lens as a constructive, experiential process.

While both Dewey and Freire present a convincing theoretical framework for service learning, some researchers (Erickson and Santmire [2001](#)) maintain that the basis of service learning lies in psychological theory. For example, Erickson and Santmire invoke Contact Theory (CT) as their theoretical explanation for the effect of service learning on students' attitudes. Contact theory was first developed in the 1950s by Gordon Allport ([1954](#)). Essentially, the theory maintains that, under certain conditions, contact between two groups can promote tolerance and acceptance. Psychologists have used Contact Theory in an effort to understand prejudice and conflict, and they suggested that friendship between members of different groups is one form of contact that can minimize inter-group conflict (Dovidio et al. [2003](#)). The contact between groups yields individual benefits in the form of "self-expansion." This is interpreted as a motivational process that can encourage people to grow and integrate new elements into their lives (Aron et al. [1998](#)). Recent findings from a meta-analysis of 500 students suggest that what is needed for greater understanding between groups is contact (Pettigrew and Tropp [2006](#)). A related finding, that could have implications for understanding service-learning effects, is that the primary reason that contact works is not cognitive but emotional.

The recognition of the importance of an emotional, or affective, component in understanding a theory of service learning no doubt appeals to early childhood educators. This is because most early childhood educators realize that there is an affective, or interrelational (Goldstein [1999](#)), dimension to children's learning. This dimension is generally evident in developmental theories of cognitive development, and specifically in Vygotskian Theory (Vygotsky [1978](#)). Drawing on psychological

theory and a developmental orientation, several proponents of service learning in early childhood education and early childhood teacher education maintain that Vygotsky's sociocultural theory (Lake and Jones 2008) lends support to a service-learning pedagogy.

Vygotsky's (1978) sociocultural perspective emphasizes the situatedness of thinking and speaking in the context of activity (Wertsch et al. 1995). Indeed, Vygotsky's assertion that cognitive development is embedded in the context of social relationships is well established (Lave and Wenger 1991; Rogoff 1990). Vygotsky's theory suggests that children can achieve much more when they are engaged in collective activities. This proposition rests on the assumption that learning creates the "zone of proximal development" (ZPD) and, in the process of learning, internal development processes are awakened "that are able to operate only when the child is interacting with people in his environment and with his peers" (Vygotsky 1978, p. 90). The ZPD includes two essential elements, namely a joint activity that constitutes an integrated cognitive system and a process of internalization associated with those experiences or joint activity. The language that is exchanged within the interaction facilitates both the joint activity and subsequent internalization.

Through this co-constructive process, the teacher and child interact to create the zone of proximal development. In doing so, they each bring different levels of understanding to any given task and, through a process of interaction, compromise, and shared experiences, reach a new level of understanding (Goldstein 1999). The success of this joint process, however, depends on the quality of the teacher-child relationship or co-participants. According to Goldstein (1999), this interrelational dimension is a "shared affective space created by the adult and child in the ZPD" (p. 651). That is, the interaction that occurs within the ZPD is influenced by affective, relational factors. One implication of this view of learning is that adult-child or teacher-child relationships are a central part of the co-construction of knowledge and intellectual development. Similarly, pre-service teacher-peer relationships, or the mentor student relationship, is the conduit that allows for the co-construction of knowledge.

Close teacher-child relationships, as well as close adult relationships, should evidence more trust and mutuality and, consequently, more reflection and use of metacognitive language. Arguably, teachers who have a secure and caring relationship with their students should use more appropriate and supportive teaching strategies. In turn, the trust manifested in these types of relationships should allow children to take risks and explore their works. Thus, the reflection that is such a critical aspect of service learning occurs within a social context and is more likely to be amplified when it is bound within secure confines of a safe, trusting relationship.

Two important aspects of Vygotsky's theory are relevant when considering theoretical perspectives related to service learning in early childhood teacher education. First, the inherent socio-emotional component helps explain the impact of engaging in service learning on pre-service teachers' learning. After all, as illustrated in the consideration of Contact Theory, it is emotion that explains the learning that derives from within group contact. The second consideration is that Vygotsky's

sociocultural theory of human learning describes learning as a social process and the origination of human intelligence in society or culture. The major theme of Vygotsky's theoretical framework is that social interaction plays a fundamental role in the development of cognition. Service learning engages participants in social action and interaction that allows for the construction of meaning. Individuals engaged in the service-learning process are placed in situations where they have to reflect on the meaning of their activities and interaction. Then, the emotional investment and the security of the social context is more likely to yield deep, meaningful learning.

Learning Through Service

The theoretical perspectives outlined above offer plausible explanations of the way service learning works in early childhood education and early childhood teacher education. Yet, arguably, they fall short of capturing and explaining all aspects of service learning. This is probably because of the challenging nature of trying to offer a theoretical explanation for such a broad pedagogical approach and an approach that has, according to the literature, a multitude of positive educational benefits. Indeed, the literature is replete with claims of positive benefits of service learning in K-12 as well as in teacher education. First, there is widespread claim that service learning is an effective pedagogy for teaching and learning (Eyler and Giles 1999; Verduccu and Pope 2001) and that it enhances problem solving and critical-thinking skills. Others maintain that service learning leads to social understanding, civic participation, and social transformation (Donahue 1999; Kraft 1998). Then, there is a body of literature, including research evidence, in support of the civic, moral, and personal benefits of service learning (Kendrick 1996; Root 1997). The emergence of a science of learning that emphasizes learning with understanding can help explain why service learning yields such positive effects.

Research in the areas of thinking and learning conducted during the past four decades paved the way for a new theory of learning. This science of learning focus was synthesized by the National Research Council in two important publications: *How People Learn* (1999) and *How Students Learn* (2005). The theory of learning outlined in *How People Learn* (1999) is relevant to consideration of service learning because it focuses on findings from the research literature that has implications for teaching and learning in Pre-K to 12th grade schools and in colleges. More significantly, perhaps, is that the report addresses a new science of learning that emphasizes learning with understanding. The report highlights three critical findings that emerged from studies of learning and that have implications for how we teach.

The first finding is that, because students have preconceptions about the way the world works, teachers should elicit their preexisting understanding and provide opportunities to build on the initial understanding. According to Wellman (1990), very young children can have sophisticated understandings of phenomena. It follows that teachers should be able to elicit children's prior or preexisting understanding.

This means that teachers should design teaching activities and classroom tasks that enable them to inquire into children's thinking. Then, in their pre-service education courses, students should learn how to engage with children in ways that allow them to recognize preconceptions and misconceptions and respond appropriately. For the early childhood teacher, this means that establishing relationships, building trust, and being empathetic are as important as knowing the subject matter being taught. It is through service learning that pre-service early childhood teachers can hone these critical socio-emotional skills. Then, in the classroom, a service-learning pedagogy, with its focus on meaning and understanding, creates contexts whereby children build on preexisting understandings of phenomena.

The second finding is that students should have deep understanding of factual knowledge. This does not mean simply focusing on disconnected facts or isolated topics, but learning with understanding and the transformation of factual knowledge into usable knowledge. In the classroom, in-depth teaching of subject matter can only be possible by covering fewer topics. Then, by using a thematic or topical approach, teachers can focus on conceptual understanding as opposed to teaching knowledge as units of disconnected facts. The authors of *How People Learn* (1990) maintain that teachers should have in-depth understanding of the subject matter themselves. They should also have expertise in the growth and development of children's thinking. This is especially true in the field of early childhood education where the most important subject matter for teachers is the knowledge, skills, and attitudes that children bring into the classroom, as well as knowledge of the growth and development of children's thinking. Then, armed with this knowledge, teachers can design classrooms that are both learner- and knowledge-centered. Just as in a service-learning approach, knowledge-centered environments provide depth of study so that the emphasis is on student understanding and active learning.

Finally, the third finding in the report (Bransford et al. 1999) concerns the importance of metacognition in teaching and learning. This is based on research findings (Palincsar and Brown 1984) that demonstrate that children can be taught strategies that help them take control of their own learning. Metacognition refers to the thinking that influences self-awareness of the cognitive processes in the minds of individuals (Brown 1978; Flavell 1978). According to Flavell, the monitoring of a wide variety of cognitive enterprises occurs through the actions and interactions of metacognitive knowledge and metacognitive experience and strategies. Metacognition also consists of the individual's ability to intentionally monitor and plan his or her cognitive processes with the aim of realizing a particular goal (Flavell 1979). It follows that teaching strategies consistent with a metacognitive approach are those that focus on sense-making and reflection. Also, metacognition and the teaching of metacognitive activities should be taught in context and integrated into the subject matter being taught (Lake et al. 2004). Service learning, with its emphasis on active learning and reflection, allows for the integration of metacognitive instruction and the development of strong metacognitive strategies.

In summary, service learning is an approach that seems to be consistent with a science of learning perspective. This is because its key components of active participation, in-depth academic learning, and reflection align with the three critical

elements that underlie the scientific basis of learning. These include problem solving and reasoning and regulatory processes that govern learning. In considering theoretical perspectives, including the science of learning approach, service learning can be applicable and effective in the preparation of teachers who work with young children. While content knowledge or subject matter knowledge is important for early childhood teachers, equally important is knowledge of children's learning, how to understand children's thinking, and how to design rich learning experiences. It is also important to nurture future teachers who can relate to children and their families, who can build strong relationships with children, and who can build community. Then, by creating strong classroom communities, they are better able to focus on children's understanding, meaningful active learning, and teaching metacognitive strategies.

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