

A Transformative Learning Model for Service-Learning: A Longitudinal Case Study

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This article presents a longitudinal research study that led to the development of a theoretical framework for explaining how students experience the process of transformational learning in service-learning. The article describes nonreflective and reflective dimensions of the process of transformational learning. The author recommends that future research focus on supporting the transformative potential of service-learning.

For more than a decade, service-learning educators have been voicing their concerns about the need to develop a more systematic and rigorous research process and agenda to better understand, improve, and substantiate the theory, practice, and value of service-learning in K-12 and higher education (Billig & Eyler, 2003; Giles, Honnet, & Migliore, 1991; Furco, 2000; Furco & Billig, 2002; Howard, Gelmon, & Giles, 2000; Welch & Billig, 2004). More recent increases in volume and attention to rigor in research have led some educators to conclude that the service-learning field is at a “methodological crossroads” (Ziegert & McGoldrick, 2004). If this is an important methodological turn in the history of the service-learning movement, it is important to reflect on where we are and where we’d like to go. Concurring with recently proposed research frameworks, this would mean focusing the research agenda on developing theories, specifying values, and generating empirical knowledge that explain and support the unique philosophical and epistemological underpinnings of service-learning (Bringle, 2003; Harkavy, 2004; Ziegert & McGoldrick, 2004).

In terms of where we are “in theory,” the emphasis on more rigorous research has drawn increasing attention to questions regarding the development of more sophisticated methodological instrumentation and design at the expense of theory development (Bringle, 2003; Bringle & Hatcher, 2000; Ziegert & McGoldrick, 2004). As Bringle points out, “there is more to good research than simply collecting data” (p. 4). In addition, calls for more advanced methodological approaches often translate into a myopic, technical-rational obsession with more precise measurement of service-learning outcomes which “runs the risk of being misguided as it ends up focusing precision at a level that is impossible in the context of the real world” (Ziegert & McGoldrick, 2004, p. 32).

With regard to research, empirical studies on learn-

ing in service-learning have focused primarily on measuring the impact of service-learning on students’ personal, civic, and cognitive development (Astin, Vogelgesang, Ikeda, & Yee; Eyler, 2000; Eyler, Giles, Stenson, & Gray, 2001; Steinke & Buresh, 2002). While much of this research on “outcomes” is useful, it often stems from institutional pressure to prove that service-learning is more than curricular fluff. Measuring students’ acquisition of disciplinary knowledge means service-learning research tends to neglect important community and institutional impacts (Jacoby & Associates, 2003; Strand, Marullo, Cutforth, Stoecker, & Donohue, 2003), learning processes (Kiely, 2002, 2005), theory development (Bringle, 2003) and values unique to service-learning contexts (Harkavy, 2004; Hecht, 2003). As a result, there is a deficit in studies that generate theory and/or investigate the contextual factors and learning processes in service-learning that lead to reported outcomes. The focus on the “what” of student learning rather than the “how” leaves us with a theoretical “black box” regarding the contextual and process mechanisms in service-learning that enhance certain cognitive, affective, and behavioral outcomes — particularly those that are transformative (Kiely, 2002, 2004).

Educators that do explore learning processes in service-learning tend to focus primarily on reflection as a useful predictor of students’ academic and personal outcomes (Ash & Clayton, 2004; Eyler, Giles, & Schmiede, 1996; Eyler & Giles, 1999; Hatcher, Bringle, & Muthiah, 2004; Silcox, 1993; Welch, 1999). The emphasis on cognitive reflection stems from the service-learning field’s dominant cultural assumption that the pragmatic and reflective experiential traditions of Dewey (1916, 1933) and Kolb (1984) provide the most adequate philosophical and theoretical framework for understanding and explaining the processes of learning unique to ser-

vice-learning contexts and for guiding practice (Bringle & Hatcher, 2000; Eyler & Giles, 1999; Giles & Eyler, 1994; Hatcher, 1997).¹ Kolb's experiential learning theory has become "the Rosetta stone of experiential education" (Becker & Couto, 1996, p. 20) and is arguably the most popular conceptualization of experiential learning in service-learning because of the model's putative theoretical clarity and conceptual parsimony, and its pragmatic simplicity (Bringle & Hatcher, 2000; Eyler & Giles, 1999; Eyler et al., 1996; Silcox, 1993). Service-learning theorists and practitioners can readily adapt Kolb's learning cycle of concrete experience, cognitive reflection, abstract theorization, and experimentation to generate knowledge and facilitate learning in diverse contexts. Along with physically situating students in authentic environments, service-learning programs simplify the Kolb model further by encouraging some form of structured reflection to connect experience with concepts, ideas, and theories and generate new and applicable knowledge in concrete "real-life" situations.

While the service-learning literature has largely accepted the usefulness of Kolb's (1984) model (Moore, 2000), a number of experiential learning theorists have questioned the dominance of constructivist, reflective experiential learning traditions (Fenwick, 2000, 2003; Heron, 1992; Lave & Wenger, 1991; Michelson, 1996; Yorks & Kasl, 2002; Wilson, 1993). They offer explanatory frameworks for understanding the nature of the relationship between learning and experience that go beyond constructivist approaches that rely heavily on reflection (Fenwick, 2000, 2003). Kolb's model has been critiqued for not providing enough detail on the social and contextual aspects of experiential knowing (Fenwick, 2003; Jarvis, 1987; Wilson). The nature and process of reflection still remains a largely undifferentiated mystery (Cone & Harris, 1996; Heron; Mezirow, 1991). Moreover, the positionality and identity of the educator and the role that emotions, affect, context, ideology, and power play in enhancing and/or inhibiting transformational learning processes have received insufficient attention in Kolb's model and in the service-learning literature in general (Brookfield, 2005; Fenwick, 2003; Heron; Yorks & Kasl). All of these authors concur that reflection is an important part of the learning process, but research should also examine the value and influence of contextual factors and nonreflective forms of learning in service-learning.

The article presents findings from a longitudinal case study that examined the transformational learning processes and outcomes that result from service-learning (Kiely, 2002, 2004, 2005). The study led to the development of a transformative service-learning model that offers a useful explanatory lens for guid-

ing critical and transformative service-learning pedagogy and engagement (Kiely, 2002). The following sections review the literature that informs this study, describe the program setting and research methodology, explain the five dimensions of the transformational service-learning process model that resulted from this research, and discuss the theoretical and practical implications of the study findings.

Theoretical Framework

Consistent with calls for research that is theory-based, theory-generating, and longitudinal (Bringle, 2003; Bringle & Hatcher, 2000; Eyler, 2002), this study draws from Mezirow's (1991, 2000) transformational learning process model as well as more recent empirical studies on, and critiques of, different dimensions of his model (see Mezirow & Associates, 2000; Taylor, 1998, 2000; Yorks & Kasl, 2002). Mezirow's model for transformational learning provides a useful theoretical framework for service-learning practitioners because it focuses on how people make meaning of their experiences and, in particular, how significant learning and behavioral change often result from the way people make sense of ill-structured problems, critical incidents, and/or ambiguous life events. Mezirow's empirically-based conceptual framework also has explanatory value unique to service-learning contexts because it describes how different modes of reflection combined with meaningful dialogue lead people to engage in more justifiable and socially-responsible action.

In addition, components of Mezirow's (1991, 2000) transformational learning theory have been tested by numerous researchers in various contexts and ongoing research has shed light on how reflection, the unconscious, context, emotions, relationships, dialogue, values, and power enhance transformational learning (see reviews by Taylor, 1998, 2000). Lastly, at least three empirical studies have found that Mezirow's model is useful for explaining the transformative impact of service-learning on students' personal, civic, moral, and intellectual learning and development (Kiely, 2004; Eyler & Giles, 1999; Feinstein, 2004). While these studies have increased understanding of different types of transformative outcomes that result from participation in well-integrated service-learning programs, they did not investigate the value and pertinence of transformational learning processes identified in Mezirow's model to service-learning contexts (Kiely, 2002, 2005). Thus, participation in certain service-learning programs can sometimes have a transformative impact on students' moral, political, intellectual, personal, cultural, and spiritual perspectives; but how or why doesn't it happen more often? (Kiely, 2004, 2005; Eyler & Giles, 1999; Feinstein, 2004; Rhoads, 1997).

Mezirow's (1991, 2000) process-oriented theoretical model provides important insight on how transformation learning occurs in service-learning. Based on a comprehensive study of the re-entry learning experience of women returning to college after a long hiatus from school, Mezirow (1978, 1991) developed a transformational learning model that describes the learning processes² that led participants in his study to experience significant change in the ways they understood their identity, culture, and behavior — which he labeled “perspective transformation.” Mezirow found that perspective transformation is typically initiated by a *disorienting dilemma* — a critical incident or event that acts as a trigger that can, under certain conditions (i.e., opportunities for reflection and dialogue, openness to change, etc.), lead people to engage in a transformational learning process whereby previously taken-for-granted assumptions, values, beliefs, and lifestyle habits are assessed and, in some cases, radically transformed. Mezirow's (2000) transformational learning model includes the following nonsequential learning processes: “1) A disorienting dilemma, 2) self-examination with feelings of fear, anger, guilt or shame, 3) a critical assessment of assumptions, 4) recognition that one's discontent and the process of transformation are shared, 5) exploration of options for new roles, relationships, and actions, 6) planning a course of action, 7) acquiring knowledge and skills for implementing one's plans, 8) provisionally trying new roles 9) building competence and self-confidence in new roles and relationships 10) a reintegration into one's life on the basis of conditions dictated by one's new perspective” (p. 22). Previous research suggests that the process of perspective transformation and the relationship between individual and social transformation are often difficult to predetermine, explain, and assess because of methodological constraints, myriad contextual factors, different individual learning styles and personalities, and the diversity of educational programs studied (Mezirow & Associates, 2000; Taylor, 1998, 2000).³ Regardless, the ideal end result of transformational learning is that one is empowered by learning to be more socially responsible, self-directed, and less dependent on false assumptions.

Service-Learning Program Setting

Over the past 10 years, a New York community college has provided an opportunity for undergraduate students to participate in a service-learning immersion program in Puerto Cabezas, Nicaragua. From 1994-2005, seven separate cohorts consisting of a total of 57 students from two and four-year colleges participated in the program. Program participants receive six-credits for attending seminars and

presentations on various topics including community development and health, Nicaraguan culture, history, and language (Kiely, 2002, 2004). Students perform service work and conduct research to examine and address health and social problems in resource-poor communities. Students design and implement health education skits and workshops, conduct health assessments in local neighborhoods, and work at the local hospital (Kiely, 2002, 2004). Course requirements include a daily journal, evening reflection groups, a report that communicates the results of student research and a final reflection paper which includes a plan for future action (Kiely, 2002). The service-learning pedagogy draws from various theoretical models including asset-based approaches to community development (Korten, 1990; Kretzman & McKnight, 1993) and community-based health interventions (Werner, 1999; Werner & Bower, 1998), and also approaches to participatory action research that fit the context and short-term nature of the program (Chambers, 1997).

The overall program goals involve investigating the origins and solutions to local community problems and, more specifically, to provide medical relief (i.e., medical supplies and medicines) and support for community development efforts through service work (i.e., workshops, neighborhood health assessments, and health clinics in remote areas where there is little access to health care) with existing community-based health organizations and networks. The transformative goals of the program encourage students to develop a critical understanding of the underlying contextual factors, institutional arrangements, and structural forces that affect persistent poverty, economic disparities, and health problems in Nicaragua. The program pedagogy also provides students with opportunities to explore the meaning of global citizenship to help students learn to question unjust social, political, economic, and cultural norms, institutions, and policies, and to engage in social action to transform institutions and policies that perpetuate social injustice, political oppression, and economic disparities locally and globally (Kiely, 2002, 2004, 2005).

Methodology

A longitudinal case study design was used to better understand how study participants experienced transformational learning during and after participation in the service-learning program in Nicaragua (Kiely, 2002).⁴ A detailed case study is a useful research approach for providing in-depth contextual information on processes and outcomes for program improvement, illuminating unique or unusual aspects of a research phenomenon, generating theory, or enlightening a wider scholarly or policy-making

audience (Bringle, 2003; Merriam, 1998; Patton, 2002; Stake, 1995, 2000). The long-term nature of the case study generated significant theoretical insight into meaning that students attribute to the learning processes that enhance transformational learning in service-learning over time.

Data gathering methods included document analysis, on-site participant observation, focus groups, and semistructured and unstructured interviews (Kiely, 2002). A case study that utilizes multiple methods such as observation, document analysis, and interviewing is useful in terms of validating, corroborating and “triangulating” emerging ideas, constructs, and interpretations, and is more apt to increase the trustworthiness and validity of the study results (Merriam, 1998; Patton, 2002; Stake, 1995, 2000). Document analysis consisted of an examination of multiple information sources including pre- and post-trip surveys, photographs, journals, reflection papers, research reports, and action plans. As co-instructor of the Nicaragua program from 1994-2001, I was able to observe participation in service-learning activities, gain an in-depth understanding of the service-learning

program context, and confirm the nature of specific events discussed during student interviews and focus groups. Attention was devoted to observing students’ emotional, physical, and intellectual responses to important events, the physical setting, service work, and social interaction. Comprehensive and detailed field notes and video footage were recorded and analyzed each year. Most students participated in interviews and focus groups prior to and during the program, shortly after returning to the U.S., and once more in 2001-2002 to explore the process of transformational learning over a significant period of time (Kiely, 2002).

A constant comparative method of analysis was used to identify common themes and generate theory grounded in the data gathered (Glaser & Strauss, 1973; Patton, 2002). Coding procedures examined themes and the conceptual relationship among them (Merriam, 1998; Patton). The constant comparative analysis of multiple data sources led to the development of a transformational learning process model for service-learning. The use of an audit trail, multiple methods, and sources for gathering information,

Figure 1
Transformational Service-Learning Process Model

Theme	Meaning & Characteristics
Contextual border crossing	There are personal (i.e., biography, personality, learning style, expectations, prior travel experience, and sense of efficacy), structural (i.e., race, class, gender, culture, ethnicity, nationality, sexual orientation, and physical ability), historical (i.e., the socioeconomic and political history of Nicaragua and US-Nicaragua relations within larger socioeconomic and political systems), and programmatic factors (i.e., intercultural immersion, direct service-work and opportunities for critical reflection and dialogue with diverse perspectives, and curriculum that focuses on social justice issues such as poverty, economic disparities, unequal relations of power) which intersect to influence and frame the way students experience the process of transformational learning in service-learning.
Dissonance	Dissonance constitutes incongruence between participants’ prior frame of reference and aspects of the contextual factors that shape the service-learning experience. There is a relationship between dissonance type, intensity, and duration and the nature of learning processes that result. Low to high intensity dissonance acts as triggers for learning. High-intensity dissonance catalyzes ongoing learning. Dissonance types are historical, environmental, social physical, economic, political, cultural, spiritual, communicative, and technological.
Personalizing	Personalizing represents how participants individually respond to and learn from different types of dissonance. It is visceral and emotional, and compels students to assess internal strengths and weaknesses. Emotions and feelings include anger, happiness, sadness, helplessness, fear, anxiety, confusion, joy, nervousness, romanticizing, cynicism, sarcasm, selfishness, and embarrassment.
Processing	Processing is both an individual reflective learning process and a social, dialogic learning process. Processing is problematizing, questioning, analyzing, and searching for causes and solutions to problems and issues. It occurs through various reflective and discursive processes such as journaling, reflection groups, community dialogues, walking, research, and observation.
Connecting	Connecting is learning to affectively understand and empathize through relationships with community members, peers, and faculty. It is learning through nonreflective modes such as sensing, sharing, feeling, caring, participating, relating, listening, comforting, empathizing, intuiting, and doing. Examples include performing skits, singing, dancing, swimming, attending church, completing chores, playing games, home stays, sharing food, treating wounds, and sharing stories.

ongoing member checks, and debriefing with colleagues enhanced the trustworthiness of the findings and the authenticity of the research process (Guba & Lincoln, 1989).

Findings

My analysis of the data found five categories that describe how students experienced transformational learning in service-learning: contextual border crossing, dissonance, personalizing, processing, and connecting (see Figure 1). These five learning processes add insight to current notions of transformational learning theory and articulate a conceptual framework for educators to understand and more effectively foster learning processes that lead to transformative outcomes in service-learning.

Contextual Border Crossing

The study data suggest that there are four important elements of context that affect students' transformational learning before, during, and after their participation in the program. Contextual border crossing describes how *personal*, *structural*, *historical*, and *programmatic* elements of the service-learning context frame the unique nature and impact of students' service-learning experience, either enhancing or hindering possibilities for transformational learning.

Personal aspects of the context include study participants' personality traits, social roles, professional background, knowledge, skills, beliefs, values, interests, needs, learning styles, expectations, motivations, desires, fears, and sense of efficacy. The personal aspects of context make up all of the individual life experiences or "biographical baggage" foundational to understanding students' individual frame of reference, and the content and process of students' service-learning experience. Assumptions and beliefs common to many participants include an uncritical acceptance of intercultural competence based on prior international travel and study experience; western view of health (i.e., medical knowledge comes from scientific study and is prescribed by expert doctors); national conceptions of citizenship; individualistic explanations of social problems (i.e., "pull yourself up by your bootstraps" philosophy); acceptance of direct charity and relief approaches to persistent poverty; expert-driven and/or deficit approaches to community development and research (rather than asset-based or participatory); and general support for (or lack of interest in challenging) U.S. foreign policy, political, and economic institutions, and capitalist ideology. The service-learning experience in Nicaragua leads some students to begin to unpack and reevaluate assumptions in their biographical baggage that often leads them to return home with an entirely different set of assumptions about their iden-

tity and the world.

Secondly, the participant's race, class, gender, religion, and nationality comprise the *structural* element of context. Structural "border crossing" highlights the notion that international service-learning is not only a shift in one's personal biography and geographic position, but also a movement across socially, economically, politically, and historically constructed borders that students bring with them as part of their "baggage." Structural aspects of the service-learning context focus students' attention on the power they have relative to Nicaraguans they work with and enables students' to develop a greater awareness of the amount of socioeconomic and political capital they bring across the border.

There is also a *historical* dimension of context, such as country-specific factors that influence current issues and Nicaraguan history and culture, and social factors that define U.S.-Nicaragua relations, and their global socioeconomic and political position. Historical context directs students' awareness to the unequal development and asymmetrical divisions of power between the U.S. and Nicaragua. Students begin to realize that they always carry their American nationality with them, along with their history and the historical relations of power between the U.S. and Nicaragua. Historical elements of context have implications for learning that leads students to examine the significance of nationality, unequal relations of power, and relative value of certain citizenship rights and obligations.

Lastly, there are *programmatic* factors that explain how context affects transformational learning. In the case of the service-learning program in Nicaragua, students experience direct, "24/7" immersion in a unique cross-cultural environment. The living arrangements and service work entail multiple opportunities to interact with the community. The program pedagogy is critical, and incorporates curricular activities that focus on addressing social, economic, and political issues affecting resource-poor Nicaraguans. The service-learning theory is driven by relief and asset-based community development approaches, transformational learning, and global citizenship models. The program facilitators maintain participatory philosophies and support equal levels of community involvement. Community partners help design the program syllabi, teach seminars, and take important roles in planning and implementing the service work. Participatory approaches are also reflected in the different types of service-work related to health prevention (i.e., neighborhood assessments, health clinics, hospital work, skits, and workshops) and opportunities to engage in participatory action research. Lastly, the program includes opportunities for students to connect, reflect, and dialogue

with people who maintain different political and economic ideologies, cultural norms, health practices, and spiritual beliefs.⁵

Crossing contextual borders initiates a complex transformational learning process whereby students, who are mostly Caucasian, female, middle class, American citizens, increasingly realize how their identity and position in the world are not only defined by nationality and physical boundaries, but also shaped by socially, culturally, politically, economically, and historically constructed borders. For example, Kendra's journal description of her personal thoughts, expectations, concerns, fears, and hopes captures the essence of what goes through many students' minds, and highlights how contextual factors influence the transformational learning process:

I imagined suffering and pain and had a fear of being unable to function and provide care to people because I thought I would break down emotionally. I was terrified that I would be seen as a rich, ignorant American. I am already insecure about the whiteness of my skin and wondered what kind of coldness I would receive from the local people of Puerto Cabezas and all of Nicaragua. I was afraid I would not be able to access any of the knowledge that I have built up regarding nursing care. I know very little Spanish, therefore I was convinced that communication would be a horrendous barrier and that my inability to speak the language would get me into some detrimental experience. The United States of America has a very shady and complex history that I have a general understanding of but have never been able to completely understand. Nicaragua has a similarly confusing history that I just started looking into just prior to the trip. I thought that the inadequacy of my knowledge base would greatly hinder my ability to comprehend the state of the country upon my visit. I wanted to enter the country and shed my jaded or preconceived notions but was unsure as to whether that was even possible. I am an optimist and have great hope for the world. When I get into the muck and mire of the extensive problems that are prevalent in this world I begin to feel pessimistic. I was worried I would lose all my hope; that the problems were too immense to work with or solve...I didn't want to be perceived as a person who thinks like this "oh you poor, suffering, ignorant people, let me try to save you."

Beth also offers an example of how personal, structural, programmatic, and historical dimensions of the context intersect and influence the learning process,

...meeting Nicaraguan women in Puerto and learning about the tremendous burdens they

carry with them all the time...it's like they're stuck "between a rock and a hard place" with all the domestic abuse, and unemployment...it seems like the men do what they want and leave the women to take care of the family...even if that means selling bread, doing laundry, begging, they are willing to make sacrifices to make sure their children are fed...I became so aware of my white, American privileged status...and the independence I have as a woman in the U.S....

The students' comments exemplify their initial learning on how moving from the U.S. to Nicaragua means more than crossing physical borders. By crossing borders, working with resource-poor Nicaraguans, and being immersed in an entirely different physical, social, political, economic, and cultural context, students begin to reexamine dimensions of their frame of reference and unpack the meanings they associate with U.S.-Nicaraguan history, citizenship, poverty, privilege, economic disparities, human rights, access to health, social roles, quality of life, and the nature of specific issues and problems.

Dissonance

Dissonance makes up another critical element of how students experience the transformational process in service-learning. Because of the longitudinal nature of this research, I was able to not only identify distinct forms of dissonance but also discover an important relationship among the type, intensity, duration, and learning involved in dissonance. The study results also indicate that the transformational learning process has to do with the type and intensity of dissonance students experience relative to the context factors they bring with them across "the border" and upon return to the U.S. (Kiely, 2002). Even though students begin to examine their position relative to Nicaraguans prior to leaving the U.S., it is not until they enter Nicaragua that they begin to experience different types and levels of physical, environmental, emotional, cognitive, and spiritual dimensions of dissonance. The type and level of intensity of their dissonance has to do with the gap or incongruence that students experience between their contextual baggage and elements of the new cultural context. The duration of the dissonance also has to do with the combination of the type and intensity of the dissonance (Kiely, 2002).

Type of dissonance. Dissonance occurs frequently because much of what students see, feel, touch, hear, and participate in is new and incongruent with their frame of reference or world-view. Because students are living in a dramatically different set of environmental, cultural, social, physical, political, and economic circumstances, they are forced to function,

think, and learn in ways to which they are unaccustomed. The types of dissonance that emerged from the data include historical, environmental, physical, economic, political, cultural, spiritual, social, communicative, and technological.

Sarah describes the multiple dimensions of dissonance as “seeing garbage everywhere, kids, pigs and dogs eating from it, burning it, rummaging through it.” Cindy experiences dissonance as a “constant state of shock walking all over town through a mixture of run-down shacks on stilts, dirt roads, dust, overwhelming heat, the stench of burning garbage, old beat-up cars, sewage systems dried up or stagnant.” They contrast their own homes with “shanties housing 10 family members” and “some of the nicer houses and cars — which locals attribute to drugs.” They observe tangible vestiges of the civil war as “those people with the machine guns” who serve as reminders of instability and potential for conflict.

Intensity of dissonance. Importantly, the study found that students distinguish between low- and high-intensity dissonance. Low-intensity dissonance includes the difficulties with communicating in another language, adjustment to the new physical surroundings, housing, modes of transportation, the climate, food, and exposure to a wide variety of potentially dangerous animals and insects. Importantly, low-intensity dissonance leads to instrumental and communicative forms of learning that help students adapt to new and unfamiliar conditions relatively quickly. Students learn to boil water that is not potable, use sunscreen lotions for skin and insect protection, take Malaria pills, wear hats and appropriate clothing, wash their hands, practice Spanish and Miskito in the local market and service work, memorize geographic markers, and protect themselves from insects with mosquito nets. Students’ adjustment to low-intensity dissonance tends to be short-term and manageable by acquiring additional information or drawing from existing knowledge.

Importantly, high-intensity dissonance, such as witnessing extreme forms of poverty, hunger, scarcity, and disease, is much more ambiguous and complex. What students see, feel, smell, hear, and touch during much of their service work with Nicaraguans living in poverty is shocking and overwhelming. Reflection on existing knowledge is not enough to effectively address and manage the contradictions in intense forms of dissonance. High-intensity dissonance often causes powerful emotions and confusion and leads study participants to *reexamine their existing knowledge and assumptions* regarding the causes and solutions to ambiguous and ill-structured problems such as extreme forms of persistent poverty.

Duration of dissonance. Whereas low intensity forms of dissonance fade and/or are resolved, the

data consistently shows that experiencing high-intensity dissonance creates permanent markers in students’ frame of reference (Kiely, 2002, 2005). High-intensity dissonance connected to social and economic disparities cannot be reconciled through reflection or participation in service work alone and remains with students long after returning to the U.S. in ways that affect their worldview, relationships, lifestyle, and consumption habits. Six years later, Ben highlights the different forms of dissonance that students experience and its long-term impact:

Well I think the thing that stands out to me about that experience is just kind of a wake up call to how privileged, entitled my life has been as a U.S. American, as a member of the upper middle class within the U.S. and all of the things that I take for granted, as far as not needing to worry about. Things that I was aware of having been in other situations in developing countries and just being aware of generally but having that emotional in your face kind of awareness of the fact that I take for granted, I turn tap water, the water will be safe and good. I can quench my thirst at any time and will be safe. At any drinking fountain, I don’t even question that. I don’t even question that I can go to any restaurant in the area or any shopping, any supermarket, and all of my food will be safe. I don’t even question the security of my house generally. I mean security in terms of rats. That was very unsettling to me, sleeping in that place, it freaked me out, I admit it. I was very unsettled and I had difficulty sleeping. Having been in other environments, I’ve been like you know you go camping here, I’ve also been in other camping in the Savannah in Africa but just something about a small place with the proximity of rats is a bit unsettling.

Beth also describes the high-intensity dissonance that she experienced at the hospital and how it later affected her in coming to terms with her own fears of living amidst poverty in a developing country,

I remember how shocked I was at seeing the conditions in the hospital, I mean there were buzzards and stray dogs eating hospital waste right outside, the flies in the kitchen, the women cooking fish for staff and patients on hibachis because there wasn’t any propane gas for the ovens, the rice ration running out, no chest protectors for x-rays, an ambulance that would break down, the \$100 a month salaries for doctors, hardly any medicine and on and on and on...It was simply overwhelming...

Then Beth adds,

...that night I got some serious pains in my

abdomen and I just got so paranoid, I thought “what if it is something serious?, where would I go?” you know and “Oh, no, not the hospital”...and I thought of how privileged I am and spoiled...It also made me, think, like, “am I cut out for this...? I don’t know if I can handle development work and here I am”...I have traveled all over Europe, it was a real eye-opener but more just that deep feeling of vulnerability...I just never knew what it was like to live in poverty...I mean really live in poverty so that you know what it feels like not to have, you know...no health, no money, no clean water, no medicines and no social services....

High-intensity dissonance that is political, economic, historical, and social marks the initial change in the way students see themselves and the world. It is the start of students’ transformational learning process, a repositioning process in which they begin to rethink their political assumptions, spending habits, loyalties, and global position on the map of power and wealth. What’s more, the intensely-dissonant experiences do not go away. Rather, they become an important part of participants’ frame of reference and continue to influence students’ transformational learning and action. For example, the day after returning to Nicaragua, Jen drove to New York City to apply to be a Peace Corps volunteer. She was stationed in Honduras, but made it her mission to return to Puerto Cabezas to explain to the Nicaraguans she met the previous year how much they inspired her. After returning from Nicaragua, Laura obtained a Nursing degree but then explained that her experience in Nicaragua influenced her decision to quit her job as a nurse to work on initiatives that support universal health insurance. She later became co-chair of the local Green Party to take more active leadership role in shaping political policies. Four years after her service-learning experience, Beth quit her job as a study abroad advisor, and later, as a social studies teacher, incorporated global poverty and human rights issues into her lesson plans. She later worked for a human rights organization and continues to raise awareness on how students can get involved in service-learning initiatives. These few examples show dissonance continues to affect students’ worldview, career choices, and lifestyle habits over time.⁶

Personalizing

The data indicate that participants also respond emotionally and viscerally to the various forms of dissonance they experience. This individual learning process represents the “personalized” nature of transformational learning in service-learning. Students’ service work allows them to develop in a short peri-

od of time very meaningful relationships with Nicaraguans who have little access to health care and medicine. Because of interactions with people who are suffering from a variety of social problems, students no longer see poverty as an abstract and detached image viewed on television. Rather, poverty is connected to real people with names, faces, and hearts. The struggle of Nicaraguans who are surviving on very little food, money, shelter, and clean water is felt viscerally and internalized by each study participant in a unique manner. Karen describes the learning process entailed in the human face of personalization as,

...bringing in the intellectual and spiritual, the emotional, everything...usually when you study something, you don’t get very emotionally involved. Other than to be enraged by something and then just go have coffee and talk about it with somebody and it goes away...No, not when it’s real, not when you’ve touched it and held it and hugged it. “It” being the community of problems and the individuals.

Janice captures the heightened sense of personal responsibility one develops when seeing and feeling the human face of poverty firsthand by contrasting it with how one might observe poverty on TV.

...It gets you more personally involved rather than if you see the commercials on TV...you don’t have to watch it. You have a choice. But if you go down to Nicaragua you don’t have a choice, you are surrounded with it. It becomes part of your everyday experience so you have to deal with it and by dealing with it you come to kind of understand it and hopefully you are able to incorporate it in your value system and your moral system and try to figure out where these people are coming from and try to understand why there is this poverty rather than seeing these starving kids on TV who you don’t know...

Personalizing also represents the emotional response students have to different types of dissonance — particularly those that are more intense. Direct contact with the human face of poverty is not something that can be “intellectualized” or “rationalized” away, as students comment over and over during reflection sessions and in journals (Kiely, 2002, 2005). Service-learning work that addresses poverty and suffering causes powerful emotional reactions that necessitate a response and cannot be ignored. Students express “moral outrage” and “feel compassion for poor people’s struggle.” They experience a variety of emotions including shame, guilt, anger, confusion, compassion, denial, and sadness. This type of dissonance requires not only an intellectual response, but an internal and emotional learning

process, which often generates a greater sense of empathy, responsibility, and commitment to work with Nicaraguans. Katelin describes the internalization and need to respond to felt poverty in Nicaragua:

...once you have the information, you can't ignore it, you can't just not say or do anything about it. I mean of course to some degree you'll go out to eat and of course you'll do things that are in your life but you can have values that incorporate more of the world....I think that was definitely a big part of my education of who I am ...I think about being there a lot as having played a really important role in where my level of consciousness is...

Each student responds to direct contact with dissonance associated with the human face of poverty on an individual basis. Responses depend on the “contextual baggage” students bring with them and type of problem they confront. However, the findings suggest that most students tend to respond by surfacing and reexamining personal strengths and weaknesses. Students learn new things about themselves in the midst of poverty and crisis that they did not know prior to their service-learning experience. Most had never confronted the kinds of dissonance associated with situations in which privilege and unequal relations of power are unmasked in the face of poverty. Many students describe personalization as if they have been “stripped raw” and in the face of “crisis” see themselves for what they are really worth. Their strengths and weaknesses became more apparent. They often asked, “why didn’t the impoverished conditions I am experiencing here affect me so intensely before?” Or, “can I handle working in conditions of poverty?” and “am I willing to take risks to address what I am witnessing?” Joyce describes the nature of how students “personalize” the process of international service-learning through first-hand experience:

...when you go there and you kind of have to look inward and you have to figure out how to cope with this really strange experience and so there is an awareness thing that happens that other people can't...they don't have that understanding... it's definitely personalized and so it's much more real and its an evolving thing, like you evolved by doing it and somebody who is not there isn't going to do that.

Ben describes the internalization of the living conditions and poverty he confronted first-hand and how it made him deeply aware of the baggage he carried with him to Nicaragua and now saw his response as a sign of personal weakness. Ben responded cynically to what he perceived as rather “rustic” accommodations for program participants and struggled with his inability to initially deal with living in crisis

mode. “That was also very unsettling to me personally — the fact that I was unsettled by it. It made me question my self image as macho, tough, someone who can handle things...somebody who can just deal with it, somebody who's not a cry baby or pampered...”

The highly subjective learning process of self-examination represented in personalizing is integrally connected to the dissonance caused by crossing borders from the U.S. into Nicaragua. The learning process of personalization, albeit emotional challenging at times, often becomes empowering for students and their comments tend to reflect this shift in self-efficacy. Angela typifies the new-found confidence that comes from dealing with the “crisis” situations in Nicaragua: “I was able to overcome my initial fears in the clinics” and upon return to the U.S. has “become more confident in hospital work and emergency situations.” An important part of the learning process of personalization is working through dissonance by evaluating personal strengths and weaknesses and also developing the confidence to take action to address the health problems and poverty witnessed through service-learning work.

Processing and Connecting

The identification of the two categories of processing and connecting highlight an important interconnected and dialectical relationship between the cognitive and affective dimensions of the transformational learning process in service-learning (Kiely, 2002, 2005). Processing entails rational, reflective and, importantly, *dialogic* ways in which students explored and reevaluated their assumptions or engaged with others to understand the origins of and solutions to social problems. Connecting represents the affective dimensions of the transformational learning process in which students developed deeper relationships with Nicaraguans in an effort to understand and empathize with their life situation. The interdependent relationship between processing and connecting helps explain how students experience transformation as both an abstract intellectual shift in their understanding of poverty, service-learning, and their citizenship role as well as a profound change in their sense of moral affiliation and obligation (Kiely, 2002).

Processing. Students used various individual and social learning strategies to cognitively process their interactions and service-related experiences in Nicaragua. Processing enabled students to gain a more substantial conceptual understanding of the causes of, and solutions to, current issues and problems in Nicaragua. Students identified various programmatic activities that provided space for processing, including: daily reflection and dialogue on the quality and impact of service work, academic semi-

nars, group reflection, community presentations, reading materials, individual journals, research projects, informal conversations with Nicaraguans, peers, faculty, and development professionals, observations of daily events, and postprogram reflective papers and gatherings.

Students reported multiple informal and formal opportunities to reflect on their service work as a way to improve their practice and conduct clinics more effectively, sometimes during the clinic and sometimes afterward in their journals or as part of the daily group reflection. Importantly, the study data indicate that students' processing included critical forms of reflection on their own and others' assumptions. As a result, they questioned the nature of knowledge and power, the role of service work and existing social arrangements that influenced the problems their service work was meant to address. They also expressed a commitment to take action against the root causes of social problems and go beyond "Band-Aid" solutions like the health clinics. For example, Kendra reflects that, "the medical care that we provided just perpetuated the disease of dependency...I believe that we were appreciated and that we helped a lot of people out of potentially devastating situations, but I felt a heart pang and a moral doubt every time we walked away from a community. What about their tomorrow?"

Students' critical awareness of root causes to problems including unjust policies and institutions and historical and socially structured relations of power, can be attributed to multiple types of reflection (i.e., readings, seminars, presentations, journaling, group reflection, and community-based research) and regular opportunities for dialogue with diverse members of the Puerto Cabezas community. Beth describes her exposure to the history of the Atlantic Coast through dialogue with community members:

When I arrived in Nicaragua, I did not understand the difference between the East and West of the country or the unique identity of the indigenous population. I also thought that the Sandinistas were the "good guys" in the revolution and civil war. It seemed like the people of the Atlantic Coast, being the poorest and least educated region, had the most to gain from the Revolution. Then, we went on the boat trip to Wawa and Roberto [the first mate and a Creole] talked about fighting for the Contras. Then, Earl [pastor and on-site contact person] told us how he was forced to fight for the Sandinistas and never fired a single shot in protest. Then, we had to stay in Puerto on the day of the elections because of concerns about continuing Miskito Separatist uprisings in rural areas who it seems had a valid gripe about lack of political representation.

By talking with members of the community, Beth developed an awareness of the complexity of the region's history and multiple perspectives on the Sandinista revolution and competing cultural, socioeconomic, and political ideologies that continue to divide the region.

Connecting. Students also consistently reported an affective learning dimension in making sense of their service-learning experience. In addition to exploring the causes of, and finding solutions to, community issues and problems through processing, students learned to "understand" Nicaraguans' position and life situation through caring, supporting, and listening to community members. Students made connections with the community and their peers through service work, and learned about Nicaraguans' lives by listening to Nicaraguans' stories. Informal interactions led students to develop deeper relationships and empathize with the struggles of many Nicaraguans and their fellow students. Study participants often attribute connections with community members to reframing their moral allegiance into greater solidarity with Nicaraguans and the global poor.

For example, the study found that all of the female participants comment on their common bond with other Nicaraguan women as a "sisterhood" that motivates their continuing efforts to "raise Americans' awareness about poverty affecting women and children in Nicaragua" and to "talk with my friends at home and at least get them to think about advocating on behalf of poor people." Kendra keeps a picture of a woman she came to know in Nicaragua by her bedside as "inspiration," and Katelin, who works in a social service agency that provides support for women, continues to share resources with the Director of the Center for Women in Puerto Cabezas. These examples signify that deep connections that were developed in Nicaragua remain with students after they return home.

Discussion

The five empirically-generated dimensions of learning identified in this case study provide an authentic description of the process of transformational learning that occurs in service-learning. The study also provides ample evidence that reflection is only part of a much more holistic set of transformational learning processes unique to service-learning. The following discussion highlights both the theoretical and practical implications of the study findings.

The study findings add insight to prior studies that had identified the transformative outcomes but did not adequately explain the role of, and interaction among, specific contextual factors in shaping the learning process that led to perspective transformation (Eyler & Giles, 1999; Feinstein, 2004; Hayes &

Cuban, 1997; Kiely, 2004; Rhoads, 1997). While previous research identifies “crossing borders” of race, class, and gender as important structural dimensions that influence the learning process in service-learning (Hayes & Cuban; Rhoads), these studies do not give sufficient attention to the conceptual connections among the various structural, historical, personal, and programmatic aspects of the context and their implications for theory and transformative practice. Eyler & Giles (1999) claim that “well-integrated” service-learning programs that incorporate and focus on placement quality, diversity, reflection, application, and community voice are more apt to have an influence on students’ perspective transformation. However, because Eyler and Giles’s (1999) study relies on data gathered from students participating in a number of service-learning programs with different activities, goals, and purposes, they are not able to adequately explain how program dimensions and other contextual factors interact to foster transformational learning. The study data suggest that to understand and foster students’ transformational learning in service-learning, the relationship and interaction among the personal, structural, historical, and programmatic contextual factors must be examined in greater detail and should inform the program planning process.

The study data also indicates that by situating students in real-life situations and framing curricula around addressing social problems, service-learning contexts present students with problematic situations similar to what Mezirow (2000, p. 22) labels “disorienting dilemmas” or what Dewey refers to as “forked-road dilemmas” (1933, p. 14). However, this study adds more specific information about how different types and levels of dissonance lead to different modes of learning. In addition, the study identifies a connection between contextual factors and multiple forms of dissonance, which confirms Jarvis’ critique of Kolb’s model that “learning is not just a psychological process that happens in splendid isolation from the world in which the learner lives, but that it is intimately related to the world and affected by it” (Jarvis, 1987, p. 11, as cited in Wilson, 1993, p. 74).

The longitudinal nature of this case study provided extensive documentation indicating that dissonance affects students’ transformational learning long after their participation in the service-learning program (Kiely, 2002, 2005). The identification and differentiation among the type, intensity, and duration of dissonance adds empirical insight to the nature of transformational learning in service-learning. This study suggests that dissonance related to environmental discomfort and/or the inability to communicate in a foreign language is low-level dissonance and tends to trigger forms of learning that further adaptation.

Low-level dissonance does not lead to profound shifts in students’ frame of reference, but rather, leads to increased competence in communicating and living in the host country (i.e., students change their habits to adjust to a new culture but their world-view remains unchanged). However, if the type of dissonance is intense (i.e., experiencing poverty for the first time), then it continues to instigate ongoing learning and is shaped by both internal factors (the psychological impact) and external forces (dominant cultural ideologies, social relations, and institutional arrangements). Students continue to draw on the dissonant experiences as reminders and inspiration for maintaining and acting on their newly formed critical awareness and often became more intense and/or frustrated about their ability to make a difference and/or raise awareness in the U.S. about the living conditions of many Nicaraguans and the global poor.⁷

Importantly, theorists and practitioners should be careful not to attribute students’ transformational learning solely to intense socioeconomic dissonance, or to some vague and monolithic phenomena like “culture shock.” Such a conclusion would be misguided and certainly miss the central theoretical and practical significance of the study results, which point to a more complex relationship among context and dissonance in service-learning. The important consideration, then, is the generalizability and causal properties of the conceptual categories identified in contextual border crossing and dissonance, and how well they explain learning and guide practical decisions in specific service-learning programs. In this study, the findings suggest that at the very least, service-learning practitioners should consider how the relationship among at least four major contextual factors (e.g., program characteristics, historical relationships, personal biographies, and structural dimensions) affects the type, intensity, and duration of dissonance and the kinds of learning that result (i.e., instrumental, communicative, and transformational). Practitioners should therefore plan service-learning programs with a clear understanding of the various contextual factors unique to their program. With greater knowledge of context, practitioners will be better equipped to identify the connections between context and different types of dissonance, particularly those that are more intense. Armed with greater knowledge of how context and dissonance function in specific service-learning programs, practitioners can anticipate and prepare more effectively for students’ emotional and cognitive responses.

In addition, knowing that low-intensity dissonance is manageable through instrumental and communicative forms of learning, and that high-intensity dissonance entails a more complex and prolonged set of transformational learning processes, also has impli-

cations for how practitioners conceive their program orientation, goals, and purposes, structure pedagogy, and evaluate learning outcomes and processes. Evaluating a students' ability to boil water, dress a wound, and/or build a house is fairly straightforward compared to measuring how well students perform triage and manage crisis during a clinic. Similarly, it is far easier to measure knowledge acquisition than it is to create a set of quality criteria, benchmarks, and explicit expectations to make summary judgments about the quality of students' level of care and empathy, their ability to communicate trust, and/or the analytical skill in assessing the value of competing socioeconomic and political ideologies for addressing poverty. The identification of historical, programmatic, structural, and personal contextual factors along with multiple types of dissonance in service-learning suggests that the process of learning in service-learning is not only much more complex than the kinds of learning processes and knowledge generated in the classroom; it also means that service-learning programs in general have more diverse contextual qualities and therefore, should be designed, implemented, and judged with that in mind.

The identification of a dialectical relationship among nonreflective learning processes of personalizing and connecting and rational forms of learning entailed in processing adds important theoretical insight to how emotional, affective, visceral aspects of learning enhance or hinder students' transformational learning. This finding also counters the dominant reflective tradition and Western cultural bias embedded in Mezirow's (1991, 2000) model, and in service-learning theory and research in general, which have largely neglected to consider the role of non-reflective forms of learning (Fenwick, 2003; Kiely, 2002, 2005; Taylor, 2000; Yorks & Kasl, 2002). While Mezirow (2000, p. 22) does claim that transformational learning often leads learners to initially experience "self-examination with feelings of fear, anger, guilt or shame," his model emphasizes the role of reflection in coming to terms with emotions, which might preclude perspective transformation (Kiely, 2005; Yorks & Kasl). In contrast, I found participants' emotional responses and visceral connections to various types and intensities of dissonance played a central role in how they understand and reexamine their identity relative to Nicaraguans, their self-worth, and their commitment to working on behalf of others. In this study, service-learning participants experienced a wide range of positive and negative feelings and emotions, including confusion, sadness, fear, doubt, pain, frustration, denial, cynicism, romanticism, shame, guilt, anger, helplessness, loneliness, joy, and empathy.

The emotional and visceral learning processes

identified in personalizing also add greater insight to Rhoad's (1997) finding that students who engage in service work with resource-poor individuals were more apt to "personalize their social concerns and thus more willing to become involved in work for social change" (p. 7). The dimension of personalizing points to the importance emotions play in fostering transformation in service-learning contexts and is more consistent with Fenwick's (2003) conceptualization of learning from experience which she claims "is not simply a situation to be apprehended but also a positioning of self within the situation, entailing contradictory emotional responses and intuitive perceptions" (p. 82).

From a practical standpoint, personalizing points to the importance of identifying and exploring how emotions and feelings impact transformational learning in different service-learning contexts. Personalizing also has implications for service-learning practitioners who may benefit from paying greater attention to the emotional learning that stems from different types and levels of dissonance students experience in service-learning. It is important to establish a safe and comfortable climate to allow students space to communicate and work through emotions so that they enhance rather than hinder transformational learning. It is also crucial to reaffirm students' personal strengths and provide ongoing support so that weaknesses can be surfaced and evaluated without embarrassment or fear of failure.

The rational and cognitive forms of learning described in the category of processing confirms previous research that found that critical reflection plays an essential role in fostering students' perspective transformation (Eyler & Giles, 1999; Mezirow, 2000, Rhoads, 1997; Taylor, 1998, 2000). This finding supports Mezirow's (1990) contention that "the most significant learning experiences in adulthood involve critical self-reflection — reassessing the way we have posed problems and reassessing our own orientation to perceiving, knowing, believing, feeling and acting" (p. 13). Rhoads also claims that

service without a reflective component fails to be forward looking, fails to be concerned about the community beyond the present, and in essence fails as community service...service projects ought to have reflective components that challenge individuals to struggle to identify various forces that may contribute to homelessness, rural and urban poverty and economic inequities in general. (p. 185)

However, the identification of both individual and social dimensions of processing provides additional insight to previous research on transformational learning in service-learning (Eyler & Giles, 1999;

Rhoads, 1997).

In particular, this study found that dialogue with, and observations of, community members who maintained radically different political, economic, cultural, spiritual, and social perspectives enhanced study participants' ability to question taken-for-granted assumptions, engage in ideology critique, identify hegemonic aspects of U.S. and Nicaraguan culture, and, more frequently than in previous studies, reframe perspectives. For example, listening to the opinions of Miskito separatists, and critically reflecting on the socialist philosophy espoused and practiced by Sandinistas, or doing research with local herbalists had a profound impact on students' understanding of their citizenship role in society, their culture, and the origin and solutions to community problems. This finding suggests that practitioners should include assignments that encourage critical reflection, but also structure opportunities for dialogue that surface diverse perspectives — especially those that help students question dominant cultural norms, ideologies, and assumptions related to citizenship, moral allegiance, and service-learning approaches.

The identification of connecting as a learning process echoes prior critiques of Mezirow's (1991, 2000) model that claim that it relies too heavily on rational forms of reflection while neglecting to consider the important role of affect, the body, and emotions in transformational learning (Belenky & Stanton, 2000; Taylor, 2000; Yorks & Kasl, 2002). The learning process entailed in connecting confirms previous research findings that service-learning programs that provide multiple opportunities for direct interaction with diverse community members is a strong predictor of students' perspective transformation (Eyler & Giles, 1999). Connecting in this study also supports Rhoads' (1997) contention that "participation in community service reinforces a student's relational or caring self" (p. 67).

Importantly, the data from this study indicate that affective learning combined with critical reflection provides a key integrative link to understanding how students experience transformational learning over time (Kiely, 2002, 2005). Consistent with feminist approaches to learning and social change (Belenky et al., 1986; Gilligan, 1982; Noddings, 1984; Weiler, 1991) underpinning Rhoads' (1997) service-learning framework⁸ as well as feminist critiques of Mezirow's model (Belenky & Stanton, 2000; Tisdell, 1998), this study suggests that the reflection and dialogue entailed in processing the service-learning experience has limited transformative impact on students' empathic understanding, sense of moral affiliation to Nicaraguans, and ongoing political engagement unless it is understood emotionally, viscerally, and affectively (Kiely, 2002, 2005). On the other

hand, the powerful connections and significant relationships students develop with Nicaraguans, however, cannot be understood and translated into practical action unless students process the emotional and affective dimensions of their service-learning experience through reflection and dialogue. Therefore, one of the most important contributions this study makes to the previous research and theory in service-learning is that students' transformational learning is more apt to occur and persist over the long-term if there are structured opportunities for participants to engage in reflective (i.e., processing) and nonreflective (i.e., personalizing and connecting) learning processes with peers, faculty, and community members.

Conclusion

Earlier in this paper, I highlighted Ziegert & McGoldrick's (2004) contention that the field of service-learning is currently experiencing a "methodological crossroads" (p. 34). Their recommendations for navigating the future of service-learning research safely through this crossroads is that "researchers should consider three areas — theory, values, and the art of applied empirical research — and should concentrate their efforts in areas in which they are most skilled" (p. 34). Despite their call for greater specialization in each of the three areas, this study, which was perhaps overly ambitious, attempted to meet each of the three criteria. The normative vision embedded in this study is that service-learning research should identify the learning processes that explain how service-learning is uniquely transformative. Second, the study draws from Mezirow's (1991, 2000) well-articulated and oft-studied theoretical framework for explaining how transformational learning occurs in service-learning. Third, as a longitudinal case study this research provides substantial empirical documentation gathered from multiple data sources in a specific service-learning context. As a result, this study identified five learning processes and theorized a conceptual relationship among them, which led to the development of a transformative service-learning model. This model expands on Mezirow's conceptualization of transformational learning and provides service-learning practitioners with a more advanced conceptual framework for fostering transformational learning in diverse service-learning contexts.

A central message in this study is that those who uncritically accept the hegemony of the constructivist reflective tradition, particularly in terms of justifying normative claims regarding the "value" of service-learning as transformative practice, are missing important nonreflective components that might better explain how service-learning leads to long-term perspective transformation (Eyler & Giles, 1999; Kiely,

2002; Kellogg, 1998; Lisman, 1998; Rhoads, 1997). Very few service-learning practitioners and theorists would challenge the claim that “reflection is the glue that holds service and learning together to provide educative experiences” (Eyler et. al., 1996, p. 16). Service-learning practitioners, theorists, and researchers (Ash & Clayton, 2004; Cooper, 1998; Dunlap, 1997; Eyler et al., 1996; Eyler & Giles; Hatcher & Bringle, 1999; Hatcher, Bringle, & Muthiah, 2004; Jacoby & Associates, 1996; Maher, 2003; Silcox, 1993; Stanton, 1997; Welch, 1999) continue to identify cognitive reflection as the most powerful pedagogical device and an essential program ingredient for enabling individual students to process, digest, and transform their service-learning experience into something intellectually meaningful and practical. The dominant discourse in the service-learning community assumes that what constitutes the learning process in service-learning is individual reflection, and this line of thinking leads to the assumption that without opportunities for reflection, there is no learning. If nonreflective learning occurs, it isn’t valued in the same way as a phenomenon of research interest as the purportedly-superior cognitive forms of intellectual reasoning (Eyler & Giles; Eyler, 2000; Silcox).

This research suggests that instead of narrowly focusing service-learning research on more precise methods, disciplinary-based outcomes, and reflective techniques, researchers should also generate knowledge of, and develop theories about, the contextual, visceral, emotive, and affective aspects that enhance transformational learning in service-learning. Researchers might evaluate dimensions of connecting that were identified in this study, or draw from other conceptual frameworks such as Heron’s (1992) affective learning model, dialogic learning approaches (Gore, 1993; hooks, 1994; Luke & Gore, 1992; Vella, 2002; Ward, 1994), or Fenwick’s (2000, 2003) typology that describes four alternative experiential learning frameworks to the reflective, constructivist traditions. Along with research that differentiates the types of reflection in service-learning, research that focuses its attention on nonreflective learning processes would more adequately explain and support the unique academic, political, ethical, and social purposes driving the service-learning movement in K-12 and higher education (Harkavy, 2004; Robinson, 1999; Ziegert & McGoldrick, 2004).

Another central message is the importance of research that draws from and generates theory not only to add consistency and greater rigor to service-learning research, but also to justify and support the normative, philosophical, and epistemological dimensions unique to service-learning. This research was explicitly directed at understanding, improving,

and supporting the transformative nature and impact of service-learning. This focus rests on the assumption that if research continues to avoid theory development that helps explain and guide the transformative and progressive vision of service-learning practice, the impact of our research efforts will remain normatively benign, theoretically blurred, and pragmatically unrealistic (Bringle, 2003; Leeds, 1998; Lisman, 1998; Robinson, 1999). A second assumption embedded in this research is that knowing that service-learning enhances intellectual and cognitive development in one’s disciplinary home says no more than what one might find in empirical studies that assess learning resulting from passive participation in a traditional classroom. A service-learning research agenda that is based on advanced instrumentation to measure pre-determined outcomes couched within the narrow confines of disciplinary knowledge is misguided and inappropriate, especially given the unique transformative potential of service-learning. As Harkavy (2004) emphatically warns, this limited research agenda ends up reducing service-learning’s potential as a social movement, an institutional change agent, an approach to community and economic development *and* a pedagogy that transforms students into socially responsible citizens into “the same old, same old” (p. 4). In other words, the transformative message of service-learning will fall on deaf ears, will continue to evolve on a rhetorical level, and tragically remain on the periphery of educational institutions unless more relevant and useful theory develops on why and how it is different from classroom pedagogy and also uniquely transformative for students, faculty, communities, and institutions. Since the rise of service-learning in K-12 and higher education contexts has often been heralded as a new, more “engaged” paradigm that explicitly questioned higher education’s detachment from societal issues and problems (Boyer, 1990; Eyler & Giles, 1999; Harkavy, 2004; Lisman, 1998; Liu, 1995a, 1995b, 1996; Stanton, Giles, & Cruz, 1999), it is crucial that researchers discover and explain more holistically the underlying pedagogical and contextual mechanisms that make service-learning a distinctly transformative educational enterprise.⁹

The service-learning model presented here offers researchers a number of conceptual categories that need more thorough examination in diverse service-learning programs. This study is one of many steps to be taken to address theoretical and empirical gaps in moving the normative vision for service-learning toward transformative practice and impact. For the service-learning field to realize such a vision, it is necessary to develop a unified and comprehensive experiential learning theory grounded in, and highlighting dimensions of, learning that is both transfor-

mative and unique to service-learning practice.

Notes

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¹ While some alternative conceptual approaches have been proposed (Cone & Harris, 1996; Wolfson & Willinsky, 1998) as more adequately representative of the kinds of learning that occur in service-learning, they are presented as descriptive models and have neither been embraced nor empirically tested in substantial ways in the field.

² It is also important to point out that while Mezirow's (1978) work is empirically grounded, his evolving understanding of transformational learning theory (see Mezirow, 1991, 2000) draws from a number of intellectual traditions including Dewey's pragmatism, Blumer's and Mead's symbolic interactionism, Gould's psychoanalytic theory of adult development, Freire's concept of conscientization, and Habermas's critical social theory (Finger & Asun, 2001). Drawing primarily from Habermas' theory of communicative action, Mezirow distinguishes between instrumental and communicative domains of learning which result from technical and practical interests respectively (see Mezirow, 1991, 2000). Instrumental learning, which dominates educational practice, involves acquiring information, skills and competencies learn more effective ways "to control and manipulate the environment or other people, as in task-oriented problem-solving to improve performance or practice" (Mezirow, 2000, p. 8). Communicative learning involves "learning what others mean when they communicate with you" regarding feelings, expectations, values, and abstract and intangible issues such as justice, love, freedom, beauty, responsibility, and so on (Mezirow, 2000, p. 8). Mezirow (2000) theorizes transformational learning as a learning process that has "emancipatory" implications for learners within both the instrumental and communicative areas of learning.

³ See Eyler & Giles (1999), Kellogg (1998), Kiely (2004), and Rhoads (1997) for different types of transformational learning outcomes that result from students' participation in service-learning.

⁴ This article reports on transformative learning processes and complements a previous article describing transformative learning outcomes that emerged from the same longitudinal research data (Kiely, 2004). Taken together, the two articles present a comprehensive model for understanding transformational learning processes and outcomes in service-learning.

⁵ Students dialogue with a number of development professionals, and community residents including government officials, church leaders, health workers, educators, neighborhood families, Miskito Separatists, Sandinistas, Contras, Creoles, herbalists, doctors, nurses, and clinic patients.

⁶ Given space limitations, I did not include numerous examples of how students' service-learning experience in Nicaragua continues to frame their worldview and actions. Please see Kiely (2002, 2004) for further examples of the long-term transformative impact on students' perspective and lifestyle choices.

⁷ See Kiely (2004) for examples of long-term challenges associated with perspective transformation.

⁸ My interpretation of the "relational" nature of connecting as it relates to transformational learning in this study is somewhat similar to Rhoads' (1997) understanding of how students develop a "caring self" (1997, p. 51). He draws from Noddings' (1984) notion of engrossment to make an important distinction between students' ability to empathize (i.e., putting oneself in the others' shoes) and "feeling with' the other" which is "not a means to an end; it is an end in itself" (Rhoads, p. 51).

⁹ It is also necessary to expand the field's limited conception of citizenship. Please see Kiely & Hartman (2004) for a framework for global citizenship in service-learning more in tune with the kinds of socially responsible citizenship needed to prepare students to address current problems and issues found in an increasingly interdependent and globalized world.

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