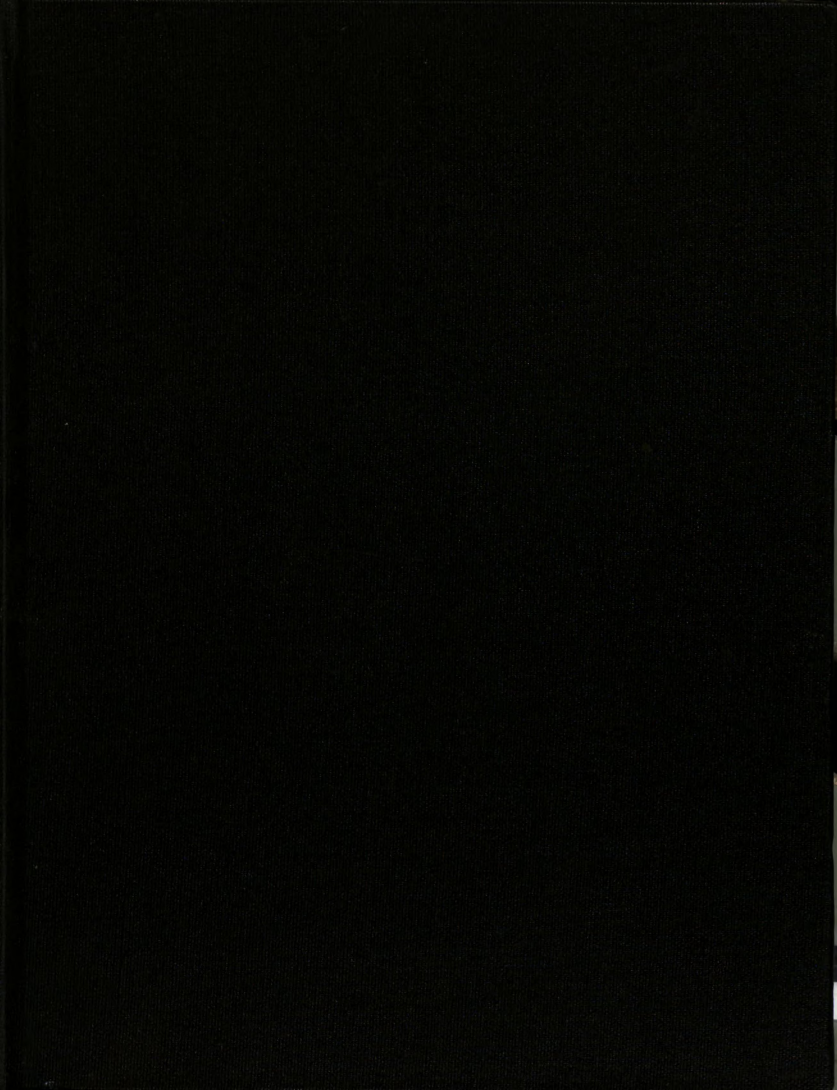




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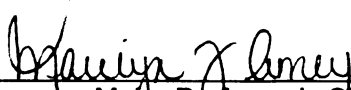
DEVELOPMENTAL OUTCOMES OF
SERVICE-LEARNING PEDAGOGIES

presented by

JOSH P. ARMSTRONG

has been accepted towards fulfillment
of the requirements for the

Ph.D. degree in Educational Administration



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**DEVELOPMENTAL OUTCOMES
OF SERVICE-LEARNING PEDAGOGIES**

By

Josh P. Armstrong

A DISSERTATION

**Submitted to
Michigan State University
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ABSTRACT

DEVELOPMENTAL OUTCOMES OF SERVICE-LEARNING PEDAGOGIES

By

Josh P. Armstrong

This study explored the psychosocial development outcomes of service-learning from three distinct models: ongoing continuous service throughout a semester in co-curricular service-learning; one time, intensive week-long spring break service-learning trips; and ongoing service through a semester of academically-based service-learning. A control group of students who had no involvement in service-learning was used for comparative purposes. The Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b) was administered to college students involved in each of the three types of service-learning and the control group to examine the Developing Autonomy Task and the Developing Mature Interpersonal Relationships Task, as well as the various subtasks that provide specific components of the larger developmental tasks. This instrument was administered as a pretest at the beginning of the academic semester, and then again at the end of the academic semester as a posttest to determine the developmental differences.

The findings indicated that there were significant developmental differences among the three service-learning pedagogies. In particular, the results suggested that, based on the SDTLA Developmental Tasks, the Spring Break Service-Learning pedagogy had statistically significant psychosocial development gains. In addition, on the SDTLA Developmental Subtasks,

participants involved in the Co-curricular Service-Learning pedagogy showed the greatest gains in psychosocial development. The Academically-based Service-Learning pedagogy had no statistically significant psychosocial development gains. Implications for service-learning practitioners include further understanding of the developmental outcomes of these service-learning types.

**Dedicated to Shawna for her unrelenting support and patience,
and to my parents, for fostering in me a curiosity for life and a love for learning.**

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CHAPTER ONE

SERVICE-LEARNING AND DEVELOPMENTAL OUTCOMES

Service-learning is a pedagogy that combines academic learning with meaningful student community service (Kendall, 1990). It is a form of experiential education that has its theoretical roots in the works of John Dewey (1916, 1927, 1938). In the beginning of the 20th century, John Dewey's theory of education promoted the inclusion of experiential learning in all forms of education (Giles, 1991). His work focused on "principles of experience, inquiry, and reflection as the key elements of a theory of knowing in service-learning" (Giles & Eyler, 1994b, p.79). Despite the respect for Dewey, experiential education did not gain credibility in the academy, and service-learning did not fully bloom until the 1960s and then had a decline until the 1980s when community service and service-learning began to make a resurgence.

The service-learning movement in higher education is gaining momentum on campuses throughout the country. For nearly two decades, the National Society of Experiential Education (NSEE) has actively promoted service-learning as a legitimate pedagogy and an educational philosophy. Two major national organizations encourage and support service-learning. Campus Compact, a coalition of college and university presidents, and the Corporation for National Service, a federal government agency, report data that give some indication of the popularity of service-learning. With the creation of Campus Compact in

1985, service-learning programs have blossomed on American college campuses. Campus Compact reported that among its 900 member schools, 33% of students on campus were involved in service projects in the 2001-2002 academic year, 59% report that the number of students participating in service has increased over the past year, and the average percentage of graduating seniors who participated in service on member campuses was 46% (Campus Compact, 2002). The Corporation for National Service's Learn and Serve Higher Education programs have funded service-learning grants for many college and universities. One evaluation of Learn and Serve Higher Education programs found that during a three-year period, fiscal years 1995-1997, schools developed about three thousand new service-learning courses (Gray et al., 1998). In 1997, these courses served a median number of sixty students per program. Furthermore, in the past twenty years, nearly 20% of the institutions of higher education have initiated formal service-learning programs on their campuses (Korbin & Nadelman, 1995). In spite of this growth, the full impact of service-learning on aspects of the undergraduate student experience, including aspects of student development is not well documented. This study examines one aspect of service-learning: whether three distinct service-learning pedagogies impact student psychosocial development differently.

Definition of Service-Learning

Service-learning is still evolving and has not yet settled into a shared vocabulary, a set of common theories, and a generally accepted approach to

validation. This has encouraged a great deal of experimentation, but has also lead to some difficulty in constructing one definition for all service-learning programs. For purposes of this study, service-learning is defined as “a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of service-learning” (Jacoby, 1996, p.5). Unlike traditional volunteerism, service-learning includes an opportunity for focused reflection, which helps produce learning outcomes. It emphasizes focused student learning through meaningful community action, and reciprocity between student and service recipient. For example, if students collect trash out of an urban wetland, they are providing a service to the community as volunteers. When students collect trash from an urban wetland, then analyze what they have found and uncover possible sources of pollution to share with the community, they are engaging in service-learning. In the service-learning example, students are providing an important service to the community and learning about water quality, developing an understanding of pollution issues, and learning to impact community policies. In this way, service-learning on college campuses is often offered imbedded within an academic course in which credit is given or as a co-curricular program.

Although there is no one definition of service-learning found in the literature (Luce et al., 1988), the four criteria used by the Commission on

National and Community Service of 1990 have become widely accepted. A service-learning program provides educational experiences:

1. In which students learn through active participation in thoughtfully organized service experiences that meet actual community needs that are coordinated in collaboration with school and community.
2. That are integrated into the students' academic curriculum or that provide structured time for a student to think, talk, or write about what he or she did and saw during the actual service activity.
3. That provide students with opportunities to use newly acquired skills and knowledge in real-life situations in their own communities.
4. That enhance what is taught in school by extending student learning beyond the classroom and into the community, and that help foster the development of a sense of caring for others. (Cohen & Kinsey, 1994; Kraft & Swadner, 1994)

Eyler and Giles (1999) integrate many of these experiences into their definition:

service-learning is a form of experiential education where learning occurs through a cycle of action and reflection as students work with others through a process of applying what they are learning to community problems and, at the same time, reflecting upon their experience as they seek to achieve real objectives for the community and deeper understanding and skills for themselves. (p. 4)

In this process, students link personal and social development with academic and cognitive development.

Robert Sigmon (Jacoby & Associates, 1996) proposed a useful service and learning typology for understanding four different variations of service-learning found at colleges and universities. Sigmon suggests that service-learning can be distinguished in terms of what aspect of service and/or learning is being emphasized. For example, “service-LEARNING” implies that learning goals are primary and service outcomes secondary; “SERVICE-learning,” in which the service agenda is central and learning secondary; “service learning” in which the absence of the hyphen indicates that the two are viewed as completely separate from each other; and “SERVICE-LEARNING” in which service and learning goals are of equal weight and the hyphen between the words is “critical in that it symbolizes the symbolic relationship between service and learning (Jacoby, 1996).

Figure 1: A Service and Learning Typology.

service-LEARNING	Learning goals primary; service outcomes secondary
SERVICE-learning	Service outcomes primary; learning goals secondary
service learning	Service and learning goals separate
SERVICE-LEARNING	Service and learning goals of equal weight; each enhances the other for all participants

Source: Sigmon (1996)

Types of Service-Learning

Through Sigmon’s typology one can begin to identify the different pedagogical methods of utilizing service-learning in education. Jacoby and

Associates (1996) call for student affairs administrators to develop a “spectrum of service-learning experiences” designed for students at different points in their education and development. They offer five options for involvement in service-learning: one-time and short-term service-learning experiences; on-going co-curricular service-learning; service-learning in the curriculum; intensive service-learning experiences; and service-learning experiences for post-college.

Through the service-learning literature, it is clear that three distinct methods of delivering service-learning are most commonly used. While given various names at different postsecondary institutions, for the purpose of this study these methods are entitled co-curricular service-learning, academically-based service-learning, and alternative spring break trips.

Co-curricular service-learning

The first method to be explored is co-curricular service-learning, which is defined as service-learning that a student voluntarily participates in during the course of a semester. Students on many campuses have regular participation in a service-learning site chosen by the college. Many of these students choose to be involved in service-learning to further their educational experience, provide desirable vocational experience or to give back to the community (Astin & Sax, 1998). The sites chosen by the educational institutions provide opportunities for community service and include an aspect of learning and reflection on this experience. The types of service opportunities often associated with co-curricular service-learning include tutoring disadvantaged students, working in

non-profit thrift shops, cooking or serving at homeless shelters, or mentoring youth in programs like Big Brother/Big Sister. The students involved in this study participated in co-curricular service-learning for 2-4 hours a week, throughout the semester.

Academically-based service-learning

The second type of service-learning to be examined is academically-based service-learning, which is defined as a service-learning experience that is a required and integral component of an academic course. Service-learning has been integrated across disciplines into the curriculum. This is most successful when it is used to meet course objectives. As faculty begin to evaluate the links between the service experience and academic content of their courses, they may explore educational goals related to environmental consciousness, multiculturalism and diversity, peaceful resolution of conflict, and community building. Academically-based service-learning also induces faculty to consider how their discipline, as well as their teaching and research, relate to social issues and problems. According to the Campus Compact member survey (2002), campuses report that 11% of faculty integrate community service with academic study or research. These faculty cite promoting engaged learning, facilitating student learning of course content, and development critical thinking skills as key incentives for integrating service with academic study (Compact, 2002). On average 21.6% of faculty offer service-learning courses on each Campus Compact member campus. These campuses have an average of 30.3 courses

that integrate service and academic learning. These courses span the breadth of a university's curriculum including courses from the departments of English, Art, Music, Social Work, Political Science, Business, Economics, Education and Biology. For this study, students in the courses with academically-based service-learning were required to participate in a service-learning project with between 15-25 hours of service over the course of the semester. Depending on the course, the service-learning hours were administered in various ways. For example, some students may participate in a tax preparation program for low-income workers for a Business course, or a reading enrichment project at a local elementary school for an Education course.

Alternative spring break trips

The third type of service-learning examined is service-learning spring break trips or alternative spring breaks (ASB). These trips take a group of 12-20 students and faculty/staff mentors to various sites both nationally and internationally for an intensive service-learning experience. Participation in alternative spring breaks is voluntary and students are typically selected for participation by a student planning team based on an application and interview process. Students are typically selected and trained during the latter part of the fall semester and the service-learning trip occurs during the spring break of the second semester. The service-learning experience last about 7-9 days and takes place in a variety of service locations across the United States and abroad. For example, the alternative spring break program of one institution had groups

participating in service-learning opportunities in Gallup, New Mexico; Knoxville, Tennessee; Kansas City, Missouri; East Palo Alto, California; and Dade City, Florida. The service on these trips focused on one of the following areas of work: Habitat for Humanity house building, working in half-way houses, women's shelters, or homeless missions. The participants are typically undergraduate students from a variety of academic majors. As in other service-learning opportunities, college faculty and administrative staff participate in the service projects as well as the processing discussions and reflection activities.

The growth of service-learning programs has been widely discussed in the literature. The outcomes of service-learning, as well, have been prevalent in the literature but only modestly demonstrated in a handful of empirical studies. Service-learning is experienced in various settings for students in higher education including co-curricular and curricular environments. The outcomes of these different types of service-learning need to be documented and more fully understood in order for higher education to embrace this pedagogy and philosophy as a potential paradigm shift for higher education.

Outcomes of Service-Learning

There is a wide range of research studies that suggest that service-learning may have an impact on the growth and development of students in a variety of ways. Service-learning has been cited as a means to positively affect students' sense of social responsibility and citizenship skills (e.g., Astin, Sax, & Avalos, 1999; Eyler & Giles, 1999; Rhoads, 1997). It has also been reported as

a way to influence students' interpersonal development and ability to work well with others, leadership, and community skills (e.g., Dalton & Petrie, 1997; Mabry, 1998). Not surprisingly, service-learning has been found to have a positive effect on students' commitment to service (e.g., Giles & Eyler, 1994; Payne, 2000). Finally, service-learning has been shown to enhance students' personal development such as sense of personal efficacy, personal identity, spiritual growth, and moral development (e.g., Rhoads, 1997; Vogelgesang & Astin, 2000).

The majority of these studies is limited to curricular based service-learning and have a variety of limitations in the methodology and study design. Many of the studies employ small and under representative samples, and poor methodology and design. They also have not adequately defined the different types of service-learning experience utilized. The extent to which the various types of service-learning influences student outcomes needs to be more thoroughly studied and documented if service-learning is to experience further growth in higher education.

The Campus Compact (1998) recently published a national research agenda for the field of service-learning. Among the priorities listed was the further understanding of the outcomes of the different methods for delivering service-learning. Partly in response to this document, the present study sought to address the developmental outcomes of service-learning pedagogies.

Statement of the Problem

From the literature, it is clear that types of service-learning models need to be more fully explored in terms of outcomes for students (Campus Compact, 1998). Therefore, this study investigated the outcomes of service-learning from three distinct models: ongoing continuous service throughout a semester in co-curricular service-learning; one time, intensive week-long spring break service-learning trips; and ongoing service through a semester of academically-based service-learning. This study investigated one particular student outcome, psychosocial development, among college students involved in three different types of service-learning.

This was achieved by administering to college students involved in one of the three types of service-learning the Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b). This instrument was devised to measure students on several developmental vectors defined by Chickering and Reisser (1993). The psychosocial development of young adults, the age group of traditional college students, is of particular interest for those working in college student affairs. The education of the “whole person” is seen as a fundamental goal of student affairs practitioners. Theories, such as Chickering’s (seven vectors) student development theory, have been widely used by student affairs officers to more clearly focus the student development agenda of their programs (Pascarella & Terenzini, 1991). According to Chickering (1969/1978; Chickering & Reisser, 1993), the seven vectors represent pathways to development as opposed to stages of development. Furthermore, it was

postulated that students move along each vector at different times and at varying paces, but eventually all journey each vector. Thus, Chickering theorized that students move from a lower point of development to a higher point of development within each vector as a result of their own individual life experiences. Chickering's seven vectors (revised version) are defined as "developing competence", "managing emotions", "moving through autonomy toward interdependence", "developing mature interpersonal relationships", "establishing identity", and "developing purpose" (Chickering & Reisser, 1993, p. 38-39). Given its wide acceptance and recognized value to student affairs work, Chickering's theory (1969/1978; Chickering & Reisser, 1993) served as a framework for the psychosocial development as measured by the Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b).

The specific research questions that are explored in this study are: Do students involved in distinct types of service-learning have different psychosocial development outcomes? Are the student psychosocial development outcomes different for students who participate in service-learning and those who do not? Does the spring break service-learning pedagogy lead to developmentally distinct outcomes when compared to the other service-learning types?

Chapter One introduced the importance of service-learning in postsecondary education and identified the research questions to be addressed. Chapter Two provides a synthesis and critical analysis of the literature related to service-learning and further exploration of the literature supporting psychosocial

development as an important aspect of college student development. Chapter Three describes the methodology of this study through explaining the hypotheses tested, a thorough description of the design and procedures undertaken, and a review of the data analysis techniques employed. Chapter Four begins with a description of the sample, and is followed by a complete presentation of the data collected. Chapter Five concludes with a restatement of the problem, hypotheses, population and sample, statistical methods, independent and dependent variables. In addition, the findings, implications, and final recommendations are reported.

CHAPTER TWO

LITERATURE REVIEW

Over the past fifteen years, a service-learning movement has arisen from college and university campuses across the United States. Hundreds of colleges and universities have initiated formal programs coupling students' service activities with curricular and co-curricular learning opportunities. For purposes of this study, service-learning is defined as "a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of service-learning" (Jacoby, 1996, p. 5). Several bodies of literature and theory have given shape to this study of service-learning. These include many aspects of service-learning, including the history, principles of and standards for service-learning programs, as well as the theoretical foundations of student development and psychosocial outcomes. These served as a starting point and guide for this study.

The literature has been organized in three general areas. First, the historical foundations of the service-learning movement are explored. The theorists and frameworks that contributed to the birth of service-learning are thoroughly examined. Second, the recent service-learning literature is reviewed with particular attention given to outlining the outcomes associated with service-learning. Outcome variables are reviewed in terms of civic and social

responsibility, academic development, and personal and social development. This literature review also explores the strengths and weaknesses of these studies, building an argument for the present study undertaken. Further examination is made of the spectrum of service-learning experiences as presented by Delve, Mintz, and Stewart (1990). The three different pedagogies for facilitating service-learning are presented in terms of the characteristics that make each of these three types of service-learning unique. Finally, the theories that provide the foundation for psychosocial development are explored. In particular, Chickering's model of student development is examined, as it provides the framework for the Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b).

Experiential Learning: Roots for Service-Learning

It is written that service-learning is "a concept with long, sturdy roots" (Hepburn, 1997). This is indeed correct, as there have been proponents of what we now call service-learning for the past hundred years (Dewey, 1938; Dunn, 1907; Eyler & Giles, 1999; Freire, 1963; Kolb, 1984; Piaget, 1952). However, these long roots are also tangled, coming from different traditions and having different definitions. At its simplest, service-learning is an experiential education technique where students take the knowledge, skills, and abilities that they learn in college courses or in their lives and apply them by providing needed community service. It is a pedagogical approach for those working in

postsecondary education to allow students to learn experientially (Jacoby, 2003). This leads us to uncover the “root of experiential learning.”

Learning, even self-directed learning, rarely occurs “in splendid isolations from the world in which the learner lives; . . . it is intimately related to that world and affected by it” (Jarvis, 1987, p.11). These thoughts by Jarvis point us to experiential learning. Experiential learning is, as Michelson (1996) suggests, arguably one of the most significant areas for current research and practice in education. The term *experiential learning* is often used both to distinguish the ongoing meaning making from theoretical knowledge, and nondirected informal life experience from formal education. The notion of experiential learning has been appropriated to designate everything from instructional activities in the classroom to special workplace projects interspersed with critical dialogue led by a facilitator, to learning generated through social action movements, and even to team-building activities in the wilderness (Fenwick, 2000).

As pedagogy, service-learning is education that is grounded in experience as a basis for learning. Likewise, experiential learning is learning through doing. It is a process through which learners construct knowledge, acquire skills, and enhance values from direct experience (Association of Experiential Education, 1995). Dewey (1938), Piaget (1952), and Lewin (1951) stand as the foremost intellectual ancestors of experiential learning theory.

Service-learning is a form of experiential education whose pedagogy rests on principles established by Dewey (1938), Piaget (1952), and other experiential learning theorists early in this century (Eyler & Giles, 1999). Learning occurs

through a cycle of action and reflection, and Dewey was convinced that learning is a wholehearted affair, linking emotions and intellect. Dewey believed an educative experience is one that fosters student development by capturing student interest because it is intrinsically worthwhile and deals with issues that students are genuinely curious about discovering (Giles & Eyler, 1999).

According to Dewey, the traditional teaching method provided “experiences which were . . . largely of the wrong kind. How many students, for example, were rendered callous to ideas, and how many lost the impetus to learn because of the way in which learning was experienced by them? . . . How many associate the learning process with ennui and boredom?” (Dewey, 1938, p. 26-27). It was through experiential learning in a classroom that students would achieve true learning and develop the skills needed to participate in a democracy (Dewey, 1938). Dewey believed an idea can only be understood when it can be reproduced on demand. He believed that by directing students toward demonstrating concern for other people, increased learning would take place. Dewey’s call for “progressive” education is well documented and has been integrated into higher education in the form of apprenticeships, internships, study abroad programs, service-learning, cooperative education and field projects.

Swiss biologist Jean Piaget (1952) proposed a model of cognitive development that adds to this understanding of the importance of experience in learning. While behaviorists viewed humans as passive respondents to environmental conditions, Piaget argued that people are active processors of information. They do not merely respond to events around them, but manipulate

these events and learn from what occurs. Piaget believed that it is through this interaction with their physical and social environment that children learn and develop cognitively.

Another influential tradition of experiential learning stems from the research on group dynamics by the founder of American social psychology, Kurt Lewin. Lewin's (1951) work on group dynamics and the methodology of action research have had practical significance for experiential learning and service-learning. In addition, Lewin's concern for the integration of theory and practice were folded into the principles of experiential education.

Based on the work of Dewey (1938), Piaget (1952), and Lewin (1951), David Kolb's concept of the experiential learning cycle (1984) is useful in explaining the role of service-learning as an important aspect of experiential education. In elaborating on the importance of experience and reflection in learning, Kolb's model of experiential learning (Kolb, 1984) was developed to show the important role experience could have in a person's learning. Kolb's ideas on experiential learning are recognized as important in the discourse of service-learning because his model links theory to practice. Kolb looked to describe learning as a process through which knowledge is transformed through experience. His model outlines the learning experience as a constantly revisited four-step cycle: concrete experience, reflection on the experience, synthesis and abstract conceptualization, and active experimentation. Although one may enter the cycle at any point, a person engaged in service-learning often begins with concrete service experience and then embarks on a personal reflection of that

experience, analyzing what actually occurred and what implications arise from those observations. In the next step, reflection stimulates the learner to integrate observations and implications with existing knowledge and to formulate concepts and questions to deepen the learner's understanding of the world and the root causes of the need for service. In the fourth step of the model, the learner tests these concepts in different situations. This experimentation leads the learner to begin the cycle again and again (Jacoby, 1996).

Experiential education was a precursor to the service-learning movement. Freire, one of the recent leaders of experiential education, said that development of political consciousness was central to instructing adults in literacy. Education was not just about learning to read, but learning to question the conditions that left many without access to education, economic opportunity, or political power (cited in Eyler & Giles, 1999). Freire said, "If I do not love the world—if I do love life—if I do not love man—I cannot enter into dialogue. Dialogue, when there is nothing in common, seems unlikely if I do not care about my neighbor" (Translated by M.B. Ramons, 1963, p. 78). Students' involvement in service-learning could be seen as an act of bridging a culture grounded in individualism. Rhoads (1997) believes service-learning experiences foster an ethic of care among students and teachers that contributes to community building where people care about others, about the idea of community, and see themselves connected to one another. Further, Rhoads (1997) affirms the belief that the college years are instrumental moments for the development of a sense of self

and the development of the whole person. Some service-learning research attests to this growth and development in the college years.

Service-Learning Literature

There is a wide range of research studies that suggest that service-learning may have an impact on the growth and development of students in a variety of ways. Service-learning has been cited as a means to positively affect students' sense of social responsibility and citizenship skills (Astin & Sax, 1998; Astin, Sax, & Avalos, 1999; Dalton & Petrie, 1997; Driscoll, Holland, Gelmon & Kerrigan, 1996; Eyler & Giles, 1999; Eyler, Giles, & Braxton, 1997; Giles & Eyler, 1994; Kendrick, 1996; Mabry, 1998; Myers-Lipton, 1998; Rice & Brown, 1998; Rhoads, 1997). It has also been reported as a way to influence students' interpersonal development and ability to work well with others, leadership, and community skills (Astin & Sax, 1998; Dalton & Petrie, 1997; Eyler & Giles, 1999; Giles & Eyler, 1994; Mabry, 1998; Rhoads, 1997). Not surprisingly, service-learning has been found to have a positive effect on student's commitment to service (Astin & Sax, 1998; Astin, Sax, & Avalos, 1999; Driscoll, Holland, Gelmon & Kerrigan, 1996; Eyler & Giles, 1999; Eyler, Giles, & Braxton, 1997; Giles & Eyler, 1994; Markus, Howard, & King, 1993; Payne, 2000; Payne & Bennett, 1999; Rhoads, 1997; Western Washington University, 1994). Finally, service-learning has been shown to enhance student's personal development such as sense of personal efficacy, personal identity, spiritual growth, and moral development (Astin & Sax, 1998; Astin, Sax, & Avalos, 1999; Boss, 1994; Eyler,

Giles, & Braxton, 1997; Eyler & Giles, 1999; Giles & Eyler, 1994; Rhoads, 1997; Vogelgesang & Astin, 2000).

However, the state of the research on service-learning is mixed. Some of the research and literature reviews have been prepared as a way to bolster support for service-learning, and often there are few attempts to discuss the negative or inconclusive results. The research can be divided into three impacts in three broad areas—civic and social responsibility development, academic development, and personal and social development.

Civic & Social Responsibility Development

As mentioned earlier, service-learning has a positive effect on a sense of social responsibility and citizenship skills. A variety of studies have been conducted that examine the impact of different types of service on the civic attitudes of the participants.

Barber et al. (1997) conducted a national study that looked at the short-term civic effects of a number of different service-learning programs. Most programs dealt with college age students, and these programs included both college service-learning programs as well as AmeriCorps programs. The researchers found broad preferences for a participatory view of democracy for all service-learners, and a significant increase in self-estimation of civic skills among college service-learning volunteers. They also discovered a small improvement in the average score on a civic participation scale for service-learning students compared to non-service-learning volunteers.

Morgan and Streb (2002) examined the change in political participation for students involved in service-learning. They discovered that students reported that they discussed politics more frequently after the service project. Similarly, they were more likely to report that in the future, they would serve on a jury if asked, participate in programs to help people, contact public officials about issues and to always vote in elections. The key mediating variable in this analysis was the level of student leadership in designing and implementing the service project. For example, the students who were most involved in implementing the service-learning project stated they were most likely to be politically involved.

In a large study that examined the impact of participation in service-learning on college students, Astin and Sax (1998) noted that students who decided to be involved in service experienced a greater growth in their commitment to helping others as well as their conflict resolution skills. Involvement in service-learning was also found to be related to a more positive self assessment of the college students' political participation skills and political efficacy (Eyler & Giles, 1999).

In a study of the outcomes for student volunteers of Learn and Serve America, Higher Education, a national service program consisting of grants given to higher education institutions, the researchers examined how service affected student development in the areas of civic responsibility, educational attainment, and life skills (Sax & Astin, 1997). The results indicated that the students involved in service-learning were different from the nonparticipants when they

came to college (Sax & Astin, 1997). Related to civic responsibility, the study found;

On all twelve measures, service participants indicated higher levels of civic responsibility than nonparticipants. The most dramatic differences are in the areas of commitment to serving the community, planning to conduct volunteer work in the near future, commitment to participating in community action programs, and satisfaction with the opportunities for community service provided by the college. In fact, a full 60 percent of service-learning participants (compared with 28 percent of other students) believed their commitment to serving their communities had become 'stronger' or 'much stronger' during college. These service-learning participants also were significantly more likely than nonparticipants to be committed to influencing social values, helping others in difficulty, promoting racial understanding, influencing the political structure, and getting involved in environmental cleanup. These differences are consistent with the expectation that service participation will have a favorable impact of students' sense of civic responsibility. (p. 49)

Despite these findings by Sax and Astin (1997) that support civic responsibility as an outcome of service-learning, there remains a need for further understanding and explanation of the impacts of service-learning on civic responsibility.

Academic Development

In the review of literature, there is some evidence to suggest that participation in service-learning programs may influence grades and academic

learning in college students. In a study of college students participating in service-learning that is one of the few experimental designs, Markus and colleagues (1993) randomly assigned sections of an American Politics course to be involved in service-learning, with the other sections serving as the control group. Service-learning students were significantly more likely to report that they applied the principles that they learned in class, and they achieved significantly better grades.

Cohen and Kinsey (1994) studied an undergraduate mass communication and society course. Students found the service-learning component most helpful in understanding two key course concepts: audiences and messages. They found the service-learning less helpful in understanding a third course concept, institutions. In testing the effects of service on college ethics students, Boss (1994) found that service-learning methods effectively moved students further along the continuum of moral development. On post-test, students in the service-learning section scored significantly higher on their Defining Issues Test (DIT) than the non-service-learning control group. Most of the service-learning students were found to be using principled moral reasoning, as compared to only 13% of the control group. Miller (1994) noted that service-learning undergraduate students in two psychology courses reported that they were better able to solve real-world problems. These comparative course section studies, though not definitive, suggest that service-learning enhances academic development.

In a larger study of college students, Astin and Sax (1998) found that participation in service-learning was positively related to students' grade point average as well as their graduation rate. Looking at high school students, Morgan (1998) noted that students were more interested in attending college after they had participated in a service-learning class. This study, unfortunately, lacked a control group.

In a qualitative study, Eyler and Giles (1999) interviewed students to assess their problem solving skills. Over the course of a semester, students in service-learning classes in which service and academic study were continuously and closely linked showed significantly more change in the complexity of their problem analysis. Students in these integrated academically-based service-learning courses were also more likely to apply subject matter knowledge to their problem analysis.

Batchelor and Root (1994) sought to examine the influence of service-learning and student moral cognitions through the decision making process students used in response to needs, and the level of reasoning used. Student journals were scored for prosocial decision-making, prosocial reasoning, and occupational identity processing skills. The study found significant gains for the service-learning students on these factors. However, this was a relatively small study with forty-eight students each involved in the treatment and control groups.

Although students who perform volunteer service during college do somewhat better on their graduating GPA than those who do not, service is not necessarily linked to the classroom or particular academic subjects (Astin & Sax,

1998). It is quite possible that the relationship between service and grades occurs because better students are more likely to involve themselves in service; in fact previous studies have found this to be true (Fitch, 1991; Serow & Dreyden, 1990).

Unfortunately, there are various methodological limitations to these studies. Astin and Sax (1997) compared students who decided to be involved with service-learning with those who did not decide to do service. Studies like this ignore that the students who decide to become involved in service-learning may differ in significant ways from students who do not chose to serve others. Finally, other research shows no academic learning effects from participation in service-learning (Hudson, 1996; Kendrick, 1996; Parker-Gwen & Mabry, 1998).

Personal & Social Development

A large amount of the service-learning research has focused on the impact of participation on the personal development of the student. In fact, there is more substantial evidence in the literature for an impact of service-learning on personal growth and development than on most other outcomes (Eyler & Giles, 1997; Waterman, 1997). Unfortunately, some of the research still has suffered from weak research design, lack of control groups or serious sample selection issues where the researcher only looks at “high quality” programs. Nevertheless, there are some trends that emerge in terms of personal growth from involvement in service-learning. In the national evaluations of the “high quality” service-learning programs funded by the Corporation for National and Community Service, there were a number of positive outcomes. Students reported an

increase in their perceived communication skills (Melchior, 1997). This was measured using questions adapted from the Greenberger Psychosocial Maturity Scale, Communications Subscale, which included questions like “I feel comfortable speaking up in class discussions.”

Astin and Sax (1998) looked at how participating in service-learning affected college students. Using data from five cohorts from 1990 through 1994, Astin and Sax found that the students involved in service-learning reported an improvement in interpersonal skills, leadership skills, social self-confidence and conflict resolution skills. Unfortunately, this study did not have students assigned to a treatment or control group; Astin and Sax (1998) simply looked at the change in attitude of the students who decided to become involved in service.

Eyler and Giles (1998), using a quasi-experimental design, examined the impact of service-learning on 1100 college students involved in service, compared to 400 who were not. There were positive effects on students' personal development as well as interpersonal skills. Specifically, Eyler and Giles found that students report service-learning contributes to greater self-knowledge, spiritual growth, and finding reward in helping others. They write, “service-learning is a predictor of an increased sense of personal efficacy, increased desire to include service to others in one's career plans, and increased belief in the usefulness of service-learning in developing career skills over the course of a semester” (Eyler & Giles, 1999, p. 55).

Boss (1994) used an experimental design to determine whether participation in service-learning would influence the moral development of college

students. Students were randomly selected from one section of the class and required to complete twenty hours of community service each semester as well as keep a journal. Students involved in the service scored significantly higher on a battery of questions related to moral reasoning compared to the students not involved in the service.

Various service-learning pedagogies

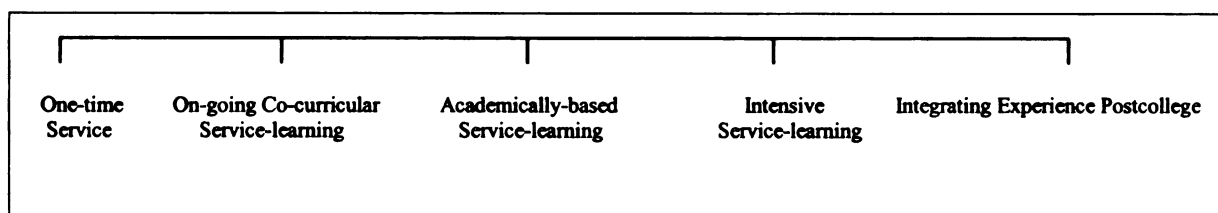
Service-learning is a pedagogy that combines academic learning with meaningful community service (Kendall, 1990). However, there are various pedagogies or methods to deliver service-learning in a postsecondary setting. One of the dilemmas facing educators interested in service-learning is understanding the developmental outcomes of these various service-learning pedagogies. The Service Learning Model of Delve, Mintz, and Stewart (1990) describes a “spectrum of service-learning experiences” designed for students at different points in their education and developmental stage. Delve, Mintz and Stewart build their model on the work of Perry (1970), Kohlberg (1975), and Gilligan (1982). The model identifies five phases, each of which is impacted by a variety of developmental variables. The five phrases include: (1) exploration, in which students demonstrate an eagerness to participate in service with little focus on what they would like to accomplish; (2) clarification, in which students continue to explore service experiences and begin to clarify their own personal values; (3) realization, in which students begin to experience a change in their orientation, learning about themselves and their community; (4) activation, in

which students begin to understand more complex social issues and seek to influence these issues; and (5) internalization, in which students integrate their experience into their lives and make more long-term commitments toward their personal and career goals.

Delve, Mintz and Stewart (1990) offer five options for involvement in service-learning: one-time and short-term service-learning experiences; on-going co-curricular service-learning; service-learning in the curriculum; intensive service-learning experiences; and service-learning experiences for post-college. This model suggests a continuum of service-learning in which traditional community service experiences, when properly designed, become progressively more meaningful in terms of the potential learning outcomes.

Figure 2

Spectrum of Service-Learning Experiences
(Delve, Mintz & Stewart, 1990)



At many colleges and universities, students are introduced to service-learning through participation in one-time or short-term experiences. They may begin their college career by doing service for a day through an orientation program or preparing and serving meals at a homeless shelter with a new residence hall community. Well-planned and well-orchestrated introductory experiences can serve as a foundation for all other types of service-learning.

Indirect, nondirect, and direct modes of service (Delve, Mintz, and Stewart, 1990) provide students with opportunities to reinforce previous service experiences, explore the community in which the institution is located and gain new insights about themselves and others through experience and reflection on that experience. The first steps into service-learning can help move students to take further action and add focus to their courses of study.

The tradition of co-curricular service-learning is a long standing one in higher education. From fraternity and sorority philanthropic activities to organizations affiliated with campus ministries, community service has long been an integral part of student life outside the classroom (Jacoby, 1996). Many colleges and universities are seeking to develop more co-curricular service-learning experiences for students and service-learning educators are attempting to include the key elements of reflection and reciprocity in the design of these programs. This requires intentional thought and planning can enable learning to take place in co-curricular service-learning experiences.

Academically-based service-learning, which is defined as a service-learning experience that is a required and integral component of an academic course, has taken various forms in postsecondary education. It may be a significant course requirement, a stand-alone service-learning module, a link between service and leadership courses, integrated into the core curriculum, a graduation requirement or a piece of a disciplinary capstone project. As Jacoby (1996) suggests, "courses employing service-learning encourage students to ask the larger questions that lie beyond the bounds of most traditional courses. Not

only does service-learning have the potential to help students learn the content in a particular discipline, it also asks students to consider the context of a discipline and how its knowledge base is used in practice” (p. 156). In some institutions where service is a significant course requirement, a set of criteria has been developed for official designation as a service-learning course. The Lowell Bennion Community Service Center at the University of Utah established the following criteria for its designated service-learning courses;

1. Students in the class provide a needed service to individuals, organizations, schools, or other entities in the community.
2. The service experience relates to the subject matter of the course.
3. Activities in the class provide a method or methods for students to think about what they learned through the service experience and how these learnings related to the subject of the class.
4. The course offers a method to assess the learning derived from the service. Credit is given for the learning and its relation to the course, not for the service alone.
5. Service interactions in the community recognize the needs of service recipients, and offer an opportunity for recipients to be involved in the evaluation of the service.
6. The service opportunities are aimed at the development of the civic education of citizens even though they may also be focused on career preparation.

7. Knowledge from the discipline informs the service experiences with which the students are involved.
8. The class offers a way to learn from other class members as well as from the instructor. (Service Learning Scholars Program, as cited in Jacoby, 1996)

Through these criteria, one gets a sense of the intentional and thoughtful nature of learning through academically-based service-learning experiences.

Intensive service-learning programs in which student immerse themselves in the community they serve include both curricular and co-curricular models and can take many forms such as alternative spring breaks, summer experiences, internships, independents study, action research, and national or international service. Program goals may be primarily academic or developmental and may emphasize civic values, commitments to faith or social justice, personal and leadership development, or application of theory to practice. The intensive service-learning experiences provide an opportunity for students to develop a sense of solidarity with the people they work with and an understanding of the issues that drive their lives.

Finally, the Spectrum of Service-Learning Experiences addresses the integration of service-learning experiences into postcollege choices. Delve, Mintz, and Stewart (1990) suggest that the stage at which students begin to consider postgraduation choices provides a rich opportunity for personal introspection on the values they have recognized or developed through service.

This can be a critical time for service-learning educators to assist students with career and lifestyle choices through service-learning experiences.

Through the service-learning literature, it is clear that three distinct methods of delivering service-learning are most commonly used. While given various names at different postsecondary institutions, for the purpose of this study these methods are entitled co-curricular service-learning, academically-based service-learning, and alternative spring break trips. The differences between the various types of service learning are currently under debate, and therefore, are being explored in this study.

Theories of Psychosocial Development

Scholars and theorists have studied students in postsecondary education for many years in an attempt to understand the growth and development that occur during these four years. Theories about how student learn and develop provide information about both the nature of college students who are participating in service-learning and about the learning and developmental outcomes that can be expected from their participation. Development is the redefining of the self in more complex and more distinct ways, yet at the same time putting all the parts together in an integrated fashion (McEwen, 1996). Knafelkamp, Wydick and Parker (1974) wrote about the delicate balance of challenge and support that must exist for development to occur. Development is promoted by offering the challenges to the individual that require new responses

while simultaneously offering sufficient support to confront the challenge (cited in Jacoby and Associates, 1996).

Colleges and universities are major social agents in promoting the personal development of students in addition to their intellectual learning. College students mature and develop not only because of what they learn in the classroom. Student interaction with college administrators, involvement with peers, acquisition of new personal values, exposure to varied campus climates and expectations all have an immense impact on the evolution of young adults' self and world views and achievement of personal identities (Pascarella & Terenzini, 1991).

Especially during the college years, young adults seek to resolve the child-parent relationship in a search for independence (Erickson, 1971), to establish a sense of identity and self-worth (Chickering & Reisser, 1993; Erickson, 1968), and to form concepts about themselves as separate adult persons (Chickering & Reisser, 1993; Kegan, 1982). They also develop increasingly mature patterns of interpersonal behaviors, coping styles, career orientations, values systems, and lifestyles that will greatly influence the shape of their futures (Pascarella & Terenzini, 1993).

The work of Author Chickering has been consistently among the most widely applied theories of student development. According to Pascarella and Terenzini (1991), Chickering (1969/1978) was the first to attempt to integrate the prior research on college student development into some kind of an organized framework. Without question, several psychosocial theories have emerged since

Chickering first introduced the seven vectors of development (1969), but Chickering's theory has probably gained more recognition and influenced more research and student affairs practice than other student development theories. Chickering's vectors have been widely used by student affairs practitioners and postsecondary researchers as a basis to establish the student development agenda of many programs and extend the body of research pertaining to college student development.

The Chickering and Riesser (1993) model of student development does not portray development as one predominant challenge or crisis resolution after another, each invariably linked to specific ages. The vectors are proposed as maps to help educators determine where students are developmentally. Movement along any one of the vectors can and does occur at different times for different students. The assumption is that higher is better than lower because one adds skills and competencies by moving through each vector (Chickering & Reisser, 1993). As the students progress through the vectors, they experience more and therefore, enhance their own development. The vectors can be described as a roadmap towards the developing of one's self. Each student follows their own roadmap created by their experiences. Chickering and Reisser (1993) stated the following:

The student may have different ways of thinking, learning and deciding, and those differences will affect the way the journey unfolds, but for all the different stories about turning points and valuable lessons, college students live out recurring themes: gaining competence and self-

awareness, learning control and flexibility, balancing intimacy with freedom, finding one's voice or vocation, refining beliefs, and making commitments. (p.35)

This model of psychosocial development provides a tool for student administrators to facilitate such development through valuable co-curricular experiences.

The Chickering and Reisser model was founded upon an optimistic view of human development. It assumes that a nurturing, but challenging college experience will help students grow in stature and substance (Chickering & Reisser, 1993). Institutions that emphasize only intellectual development and lack emphasizing other strengths and skills are leaving a void in growth for college students. The student affairs profession prides itself in taking advantage of educating college students beyond the intellectual development they learn in the classroom. They emphasize the development of the whole student. Chickering and Reisser (1993) state their purpose for their model to benefit the profession in the following manner:

To develop all the gifts of human potential, we need to be able to see them whole and to believe in their essential worth. In revising the seven vectors, we hope to offer useful tools to a new generation of practitioners who want to help students become "excellent all-rounders." We also hope to inspire experienced faculty, administrators, and student services and support staff to recommit to the mission of nurturing mind, body, heart and spirit. (p. 41).

To be effective in educating the whole student, colleges must hold student affairs professionals accountable for understanding and fostering student development. The Chickering and Reisser seven vector model provides a tool for student administrators to facilitate psychosocial growth in college students. Since 1969, with a substantial base of research to support his theory, Chickering and Reisser have made some adjustments to his original seven vectors. The vectors are briefly described as:

Vector 1: *Developing competence*: Encompassing intellectual competence physical and manual skills, interpersonal competence, and an overall sense of competence.

Vector 2: *Managing emotions*: Developing an increasing awareness of both positive and more difficult emotions and learning how to handle and integrate these emotions in appropriate ways.

Vector 3: *Moving through autonomy toward interdependence*: Developing emotional and instrumental independence, which lead to a recognition and acceptance of interdependence.

Vector 4: *Developing mature interpersonal relationships*: Developing tolerance and appreciation of differences and a capacity for true and healthy intimacy.

Vector 5: *Establishing identity*: Developing a solid and comprehensive sense of one's own being.

Vector 6: *Developing purpose*: Clarifying goals and making plans in regard to one's vocation, interests, and lifestyle.

Vector 7: *Developing integrity*: Clarifying a personally valid set of beliefs that have some internal consistency and that provide at least a tentative guide for behavior. (Chickering & Reisser, 1993, p 43-52)

Two of Chickering and Riesser's (1993) vectors are of particular interest to this study because they are the vectors that will be measured by the Student Developmental Task and Lifestyle Assessment (SDTLA).

Vector 3: Moving through Autonomy to Independence

Chickering and Reisser (1993) define moving through autonomy toward interdependence with three components: emotional independence – freedom from continual and pressing needs for reassurance, affection, or approval from others; instrumental independence – the ability to carry on activities and solve problems in a self-directed manner, and the freedom and confidence to be mobile in order to pursue opportunity or adventure; and interdependence – an awareness of one's place in and commitment to the welfare of the larger community (Chickering & Reisser, 1993).

Emotional interdependence begins with a separation from parents to a reliance on peers and role models, and ideally moves to a comfort with one being alone or comfortable with one's identity. Some students have an easier time developing autonomy if they learned to develop skills to manage anxiety and make choices while they were growing up. Success in college requires freedom from fear, of not knowing what to do, of making mistakes, or being less than perfect (Chickering & Reisser, 1993).

Instrumental independence has two components: the ability to carry out activities on one's own and to be self-sufficient, and the ability to leave one place and function well in another. Emotional and instrumental independence facilitate growth for one another.

The capstone of autonomy is the recognition and acceptance of interdependence. This capstone is experienced when one has a sense of his or her place in the world. Chickering and Reisser (1993) further define interdependence as respecting the autonomy of others and looking for ways to give and take with an ever-expanding circle of friends.

Vector 4: Developing Mature Interpersonal Relationships

Relationships with others have a very powerful impact on students' lives. Through these relationships students learn how to communicate, how to share pain, how to comfort and celebrate, and how to manage emotions. Successful relationships that last over time require tolerance and appreciation of differences and the capacity for intimacy. Intimate relationships involve respect, honesty, and responsibility. Both components of successful relationships require one to accept individuals for who they are. Tolerance implies one is able to suspend judgment and accept differences in others. This awareness leads to further appreciation and comfort with differences for students (Chickering & Reisser, 1993).

Increased capacity for intimacy involves in higher quality of relationships. The higher quality is marked by interdependence between the individual with

freedom, trust, and honesty circling the relationship. Movement along this vector also involves a growing ability to differentiate between relationships and those that are toxic and demanding (Chickering & Reisser, 1993). Students begin to become more selective in their relationships and begin to surround themselves with relationships that bring them life.

Service-learning and Chickering's Theories

Chickering's vectors are important to service-learning because they provide awareness of the kinds of psychosocial issues students may be facing as they engage in service-learning. A first or second year student may be struggling with issues of competence or a sense of confidence or with becoming less dependent on others while a senior student may be facing prominent issues of life purpose or congruency within his or her life (cited in McEwen, 1996). Chickering believed that significant vectors of change can occur within students if colleges and universities meet students where they are and establish relevant programs designed to advance the learning and developmental needs of students.

According to Chickering and Reisser (1993), "psychosocial theories view development as a series of developmental tasks or stages, including qualitative changes in thinking, valuing and relating to others and to oneself" (p. 2). Service-learning experiences can provide the necessary opportunities for changes in student thought and relationships to others. It is this development that this study seeks to assess in relationship to the three distinct service-learning models.

Summary of the Literature Review

As evident from the literature, service-learning can influence a variety of psychosocial outcomes. However, it is difficult to make general conclusions regarding the effects of service-learning due to the range of issues studied, sample size employed and the varied methodologies used. Many studies report positive effects, while others were inconclusive or showed no change. Since the results of many of these studies are inconsistent and inconclusive, more in-depth studies are needed to explore the psychosocial outcomes of service-learning more fully.

Pedagogically distinct models of service-learning also need to be explored. The literature suggests that service-learning can impact students in a variety of powerful ways, however, the delivery of service-learning, through academically-based service-learning, co-curricular service-learning, and alternative spring break service-learning trips, must be better understood in order to move this potential paradigm shift for higher education forward.

CHAPTER THREE

DATA AND METHODS

Chapter Three describes the methodology of this study. It begins with an overview of the research questions and presents the hypothesis tested. The population sample and site setting are explained, followed by a thorough description of the design and procedures for the study. In this section, the Student Developmental Task and Lifestyle Assessment instrument that was utilized is explained. Finally, a description of the data analysis techniques that were employed is reviewed.

Service-learning is a pedagogy that focuses on individual student growth and learning. Understanding the efficacy and utility of differing models of service-learning is critical to the advancement of service-learning. From the literature, it is clear that types of service-learning models need to be more fully explored in terms of outcomes on students (Campus Compact, 1998). This study investigated the outcomes of service-learning from three distinct models: ongoing continuous service throughout a semester in co-curricular service-learning; one time, intensive week-long spring break service-learning trips; and ongoing service through a semester of academically-based service-learning. This study investigated one particular student outcome, psychosocial development, among college students involved in three different types of service-learning. This was achieved by administering to college students involved in one of the three

pedagogies of service-learning the Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b). A fourth control group of students was used for comparative purposes.

Research Questions

This study explored the questions: Do students involved in distinct types of service-learning have different psychosocial development outcomes? Are the student psychosocial development outcomes different for students who participate in service-learning and those who do not? Does the spring break service-learning pedagogy lead to developmentally distinct outcomes when compared to the other service-learning types?

Hypotheses

Three hypotheses were tested in an attempt to answer the stated research questions:

1. The "SDTLA difference scores"* of traditional college students will significantly differ across the three types of service-learning.
2. The "SDTLA difference scores"* of traditional college students will significantly differ for students involved in the three types of service-learning from those not involved in service-learning (control group).
3. The "SDTLA difference scores"* for the alternative spring break service-learning pedagogy will reflect the most significant differences when compared to the other two pedagogies.

** “SDTLA difference score” is a derived score when a post-SDTLA score is subtracted from a pre-SDTLA score.*

Population and Sample

The population for this study was comprised of currently enrolled, traditional age, full-time, degree-seeking students at a private, liberal arts college of approximately 4,000 undergraduate students located in the Midwest. The sample was selected using a stratified random selection procedure. The students who were asked to join this study were already participating in three distinct service-learning pedagogies. One group of sixty students who were involved in academically-based service-learning was invited to participate in this study. These students were participating in a service-learning project connected to their course content. Another group of sixty students involved in co-curricular service-learning facilitated through the college's service-learning office was invited to participate. These students were involved in continuous service-learning projects throughout the semester at locations such as thrift stores, after school programs, and homeless shelters. The third group of students was involved in the college's service-learning alternative spring break trips. These sixty students invited to participate traveled during the college spring vacation to a location to serve for a week. A final group of sixty students who were not involved in service-learning was chosen at random from the college student population to serve as a baseline group.

The service-learning setting

The college has an established and developed service-learning program that has been integrated into many facets of the institution. The Service-Learning Center began in 1964 as the "KIDS" program (Kindling Intellectual Desire in Students), with a focus on tutoring young people in core-city schools. The program grew quickly and expanded into other areas of service, such as Big Brothers/Big Sisters and the Volunteer Moving Service, helping low-income families move household belongings. The KIDS program became the Student Volunteer Service (SVS) in 1980 and reflected a broader focus of community involvement. As SVS, the program continued its emphasis on inner-city education, but expanded to provide assistance in local food pantries, nursing homes, and in homes struggling to break the cycle of domestic abuse. The students became valued volunteers in hospitals and social service organizations.

In 1991 the college joined Campus Compact, a national coalition of colleges and universities, which also has a strong state organization called the Michigan Campus Compact. The purpose of Campus Compact is to increase student involvement in community service, to increase public, federal, and foundation support for student involvement, and to promote the value of civic responsibility by people and institutions. The college joined the Campus Compact with the particular interest of exploring with other colleges and universities how to integrate service into traditional academic curricula. It seemed to some faculty members and to the academic administration at the

institution that building a more direct link between theory and practice through service had potential as a pedagogical tool. Since then, faculty members have increasingly used service-learning as an academic resource.

Working together, students and faculty members of this institution contribute numerous hours of service in the community. Last year over 1,800 students and one-third of the faculty participated in service-learning activities. For many students this involvement begins in the fall of their first year, when all new students participate in StreetFest, a service-learning activity that is part of the college's orientation program. Hundreds of other students participate each semester in academically-based service-learning courses, exploring the connection between course content and service experiences.

Design

This quasi-experimental design employed a classic pretest-posttest control group design to test the hypothesis whether psychosocial development, the dependent variable, is different among students who participate in co-curricular service-learning, academically-based service-learning and service-learning spring break trips, the independent variables.

The independent variable in this study, service-learning type, was operationalized into three fixed categories, and a fourth baseline control group. The first type was co-curricular service-learning, which is defined as service-learning that a student voluntarily participates in during the course of a semester. The students involved had regular participation in a service-learning site chosen

by the college. The site provided opportunities for community service and included an aspect of reflection on these experiences. The college had over 250 students participating in forty various sites through the city. A group of sixty students participating in an array of service-learning activities were randomly selected and invited to participate in this study.

The second type of service-learning was academically-based service-learning, which is defined as a service-learning experience that is a required and integral component of an academic course. In the 2002 Campus Compact member survey, it was found that 59% of the member institutions gave academic credit for service-learning, 35% incorporate service-learning into departments, and 19% incorporated service-learning into the core curriculum. The faculty surveyed cite promoting engaged learning, facilitating student learning of course content, and developing critical thinking skills as key incentives for integrating service with academic study (Compact, 2002).

The college had forty courses that integrated service-learning into their for-credit courses. These courses spanned the breadth of the college's curriculum including courses from the departments of English, Art, Music, Social Work, Political Science, Business, Economics, Education and Biology. Students in the courses with academically-based service-learning were required to participate in a service-learning project with between 15-25 hours of service over the course of the semester. Depending on the course, the service-learning hours were administered in various ways. For example, for students enrolled in Biology 112 the academically-based service-learning consisted of a service-related

research project working with an environmental survey of a local river. This project required students to serve for about 15 hours over the course of three weeks. However, in Education 202 students were asked to complete at least 15 hours of service-learning by working in a classroom with a student experiencing learning difficulties for 1 1/2 hours per week for ten weeks. For this study, students enrolled in about thirty different courses offering academically-based service-learning during the spring semester were eligible to be randomly selected by the college's registrar office to be invited to participate in this study. Sixty students were invited to participate in this study from the academically-based service-learning group.

The third type of service-learning was service-learning spring break trips or alternative spring breaks (ASB). About half of the Campus Compact member institutions in 2002 offered service-learning spring break trip options for college students (Compact, 2002). These trips take a group of 12-20 students and faculty/staff mentors to various sites, both nationally and internationally. Participation in alternative spring breaks is voluntary and students are typically selected for participation by a student planning team based on an application and interview process. Students are typically selected and trained during the latter part of the fall semester and the service-learning trip occurs during the spring break of the second semester. These service-learning experiences last about 7-9 days and take place in a variety of service locations across the United States. In the past years, the college has developed various spring break trips to a Native American reservation in New Mexico, to urban Cleveland, and a building

project in Tennessee. The participants are undergraduate students from a variety of academic majors. As in other service-learning opportunities, college faculty and administrative staff participate in the service projects as well as the processing discussions and reflection activities. For this study, sixty students were randomly selected from the five trips that participated in service-learning projects in the spring break of 2004. These trips include groups participating in service-learning opportunities in Gallup, New Mexico; Knoxville, Tennessee; Kansas City, Missouri; East Palo Alto, California; and Dade City, Florida. The service on these trips focused on one of the following areas of work: Habitat for Humanity house building, working in half-way houses, women's shelters, or homeless missions.

The dependent variable in this study was the psychosocial development of college students. In previous studies, service-learning has been shown to enhance students' personal development such as sense of personal efficacy, personal identity, spiritual growth, and moral development (Astin & Sax, 1998; Astin, Sax, & Avalos, 1999; Boss, 1994; Eyler, Giles, & Braxton, 1997; Eyler & Giles, 1999; Giles & Eyler, 1994; Rhoads, 1997; Vogelgesang & Astin, 2000). It was therefore important to further the research in this area in order to more fully understand the impact of various modes of service-learning on students' psychosocial development. The dependent variable was analyzed using data from the Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b). The SDTLA is an assessment tool and procedure that educational practitioners can use with young adult college

students. The SDLTA enables the educator to facilitate development of life purpose, mature interpersonal relationships, and academic autonomy as well as the establishment of healthy lifestyles (Winston, Miller & Cooper, 1999). The assessment tool is based on three of Chickering's developmental vectors: moving through autonomy toward interdependence, developing mature interpersonal relationships, and developing purpose, and the SDTLA was developed for college students between the ages of 18 and 24 (Winston, Miller & Cooper, 1999). The Student Development Task and Lifestyle Assessment (SDTLA) provided a t-test score for these three developmental tasks, each of which is further delineated by subtasks. The three developmental tasks of the SDTLA are establishing and clarifying purpose, developing autonomy, and developing mature interpersonal relationships. The pretest and posttest difference score of these developmental tasks served as the dependant variable in this study.

Instrument

The Student Developmental Task and Lifestyle Assessment Instrument (SDTLA) was revised from an earlier edition, the Student Development Task and Lifestyle Inventory (Winston, Miller & Prince, 1987). According to Winston, Cooper and Saunders (1999) the instrument was revised from its earlier version to make it more useful as an outcomes assessment tool and to incorporate new research findings related to the identity development of women, ethnic minorities, and gay, lesbian and bisexual students.

The SDTLA form 1.99 is made up of 153 items and measures student task and lifestyle development along three broad developmental tasks, comprised of ten more specific developmental subtasks, and one lifestyle scale. According to Winston, Miller and Cooper (1999), a developmental task is an “interrelated set of behaviors and attitudes that the culture specifies should be exhibited at approximately the same time by a given age cohort in a designated context higher education” (p. 10). The tasks and subtasks included in the SDTLA represent psychosocial developmental changes indicative of individuals who are successfully addressing important life events or issues within the context of higher education. The three developmental tasks are establishing and clarifying purpose, developing autonomy, and developing mature interpersonal relationships. The developmental tasks directly correlate to three of Chickering’s vectors (Chickering & Reisser, 1993).

The SDTLA is further delineated by developmental subtasks. Winston, Miller and Cooper (1999) define a subtask as “a more specific component or part of a larger developmental task. Subtasks are independent constructs that also share commonality with other subtasks within a larger developmental task area” (p. 10).

The SDTLA is an untimed instrument. Form 1.99 of the SDTLA generally requires 25 to 30 minutes to complete (Winston, Miller & Cooper, 1999). The overall reading level of the SDTLA is between grade 11.2 and 11.5, and a student’s reading level may affect the time it takes to complete the assessment.

Based on pilot data, the 1.99 form of the SDLTA was found to be too time-consuming for subjects. The 153-item survey was taking subjects approximately 30 minutes to complete. It was determined that the length of this version of the SDTLA would negatively affect the response rate of this study. A different version of the SDTLA that utilizes the same questions in the form of an 80-item survey was used. The reliability and validity estimates for this version of the SDTLA instrument were consistent with the 1.99 version. The scores from this survey form provided two developmental scales, Developing Autonomy Task and Mature Interpersonal Relationships Task, that were used in this study to operationalize the dependant variable, psychosocial development. The developmental tasks were further broken down into subtasks. The Developing Autonomy task had four subtasks: Emotional Autonomy, Interdependence, Academic, and Instrumental. Students who have scored high on the Developing Autonomy task: (a) are able to meet their needs and action on their own ideas without the need for continuous reassurance from others; (b) can structure their lives and manipulate their environment in ways that allow them to satisfy daily needs and meet responsibilities without extensive direction or support from others; (c) structure their time and devise and execute effective study strategies to meet academic expectations without the need for direction from others; and (d) recognize the reciprocal nature of the relationship between the individual and his or her community and acts as a responsible, contributing member.

The second task used in this study was the Mature Interpersonal Relationships Task. This task is defined by two subtasks: Peer Relationships

and Tolerance. Students who scored high on this task: (a) have relationships with peers that are open, honest, and trusting; their relationships reflect a balance between dependence and self-assured independence; and (b) show respect for and acceptance of those of different backgrounds, beliefs, cultures, races, lifestyles, and appearances

Figure 3

Student Developmental Task and Lifestyle Assessment	
Developing Autonomy Task Emotional Autonomy subtask Interdependence subtask Academic Autonomy subtask Instrumental Autonomy subtask	Developing Mature Interpersonal Relationships Task Peer Relationships subtask Tolerance subtask

In addition, there are two scales in the form 1.99 of the SDTLA: the salubrious scale and the response bias scale. A scale in the SDTLA is the measure of the degree to which students report possessing certain behavioral characteristics, attitudes, or feelings, but unlike a developmental task, may not be directly affected by the participation in the higher education environment (Winston, Miller & Cooper, 1999). The salubrious lifestyle scale measures the degree to which a student's lifestyle is consistent with or promotes good health and wellness practices. The response bias scale is used to detect a student that is attempting to portray himself/herself in an unrealistically favorable way (Winston et al., 1999a, p.11-13).

Validity of the SDTLA

A normative sample was collected by Winston, Miller & Cooper (1999) from over 1800 students from 31 colleges and universities in the United States and Canada. Data from both public and private institutions were collected voluntarily through regular scheduled classes, student organizations, residence hall staffs, and members of self-exploration and career exploration groups (Winston et al., 1999a). The normative data indicate changes in the SDTLA scores from the freshman to senior year in college (Winston et al., 1999). A longitudinal study was also conducted to assess the effectiveness of the SDTLA in measuring psychosocial changes from the freshmen to senior year (Wachs & Cooper, 2002). Using the same population as the normative sample, the study was designed to establish construct validity for the SDTLA by demonstrating that it was responsive in measuring psychosocial growth and development during the college experience (Wachs & Cooper, 2002). With the pre-test and post-test data from 188 students, the researchers scored the results of the 10 subtasks and 3 tasks and one scale score from the SDTLA. After conducting a multiple analysis of variance (MANOVA) to determine that those who completed the posttest were essentially similar at pre-test on the variables of interest to those who did not complete the post-test and after conducting fourteen paired *t* tests to determine if significant change had occurred, the researchers found increases in all of the subtasks and three of the four tasks. The salubrious lifestyle task was the one task that students did not make significant gains in during their four-year tenure in college.

This study by Wachs and Cooper (2002) provides practical significance to a researcher planning to use the SDTLA. The authors of the SDTLA created the instrument to measure students on three developmental vectors defined by Chickering and Reisser (1993). Students are expected to make gains in a particular vector as they grow older, gain more experiences, and matriculate through college. The results of this study demonstrate that as a measurement tool, the SDTLA is sensitive to these changes within individuals across time (Wachs & Cooper, 2002).

Reliability of the SDTLA

Winston, Miller and Cooper (1999) used test-retest and internal consistency from reliability estimation. Test-retest was used to give an estimation of stability of measure over time. The SDTLA was administered to three classes of students at two different institutions. Without any intervention, students were given the assessment one month later. The total number of students who completed the pre-test and post-test equaled 52 subjects. The researchers computed Pearson product-moment correlations for all tasks, subtasks, and scales (Winston et al, 1999). The results yielded correlations to cluster around .80. All correlations were statistically significant at $p < .01$. The SDTLA would not be expected to vary greatly over short periods of time (Winston, Miller & Cooper, 1999). The second method of determining reliability was estimating internal consistency. The alpha coefficients for a sample of 1822

students produced results ranging from .88 to .62 (Winston, Miller & Cooper, 1999).

Procedures

The sample of students was identified with the assistance of the college's Service-Learning Center and the Registrar's office. The center provided a list of students currently involved in co-curricular service-learning, and the students chosen to participate in the alternative spring break trips. The Registrar's office provided the names of students enrolled in academically-based service-learning courses. With these resources, a list of students eligible for the three distinct service-learning groups was compiled. A group of sixty students was randomly selected from the larger population of students involved in co-curricular service-learning. Another group of sixty students involved in academically-based service-learning were randomly selected from the larger population of students in these courses. A group of sixty students were randomly selected from the students chosen to participate in the alternative service-learning spring break trip. Finally, the baseline college student group was also identified using a random sample technique. With assistance from the Registrar's office, a complete list of all currently enrolled, full-time, degree-seeking, undergraduate students was obtained. A randomly selected sample of 60 students from this population of students was identified using a table of random numbers. Before participating in the study, the researcher verified with the Service-Learning Center that these

students were not involved in any service-learning activities throughout the spring semester.

Using these lists of students, the following stratified random sampling technique was used. The sample for the four groups was achieved by using simple random sampling techniques described by Folz (1996): “1. Obtain a complete list of the population. 2. Assign each case in the population a number. 3. Use a table of random numbers to select enough cases for the desired sample size” (p. 57). Within the lists of each stratified group, a random sample was obtained. For example, sixty students involved in academically-based service-learning in the spring semester were selected from the total list of student enrolled in these courses given to the researcher by the Registrar’s office.

Once the sample was identified, an email message was sent to each of the students in the sample explaining the purpose of the study and requesting their participation (see Appendix B). The data collection process was done with the assistance of the college’s social research center using the Inquisite web survey software. The student participants were sent an email from the Inquisite web survey software that invited them to follow a link embedded in their email message, complete the survey, and submit the SDTLA instrument directly to this computer program. The Inquisite software program kept the identities of the subjects confidential and tracked the completed surveys by the student ID number. After a week, if the student had not responded to the first email, the software program generated a follow-up email inviting the student to complete the SDTLA instrument.

During the third week of the spring semester, mid February, the information was gathered from the four selected sample groups that served as the pre-test data. The post-test assessment was gathered following the fourteenth week of the semester courses (early May). In both phases of data collection, the Inquisite web survey software was employed with the four sample groups.

The most effective strategies for contacting the students in the three distinct groups and the control group were employed. All of the students contacted for involvement in this study were ensured that their participation was voluntary and that all data collection was in compliance with accepted protocols for ensuring human subjects protection in research. In an effort to maximize the return rate of the assessment, the researcher asked for the assistance of the service-learning student staff and faculty members. The students involved in co-curricular service-learning have regular contact with service-learning student staff. The researcher met with this student staff and asked for their assistance in encouraging students to complete the survey. The students involved in the alternative spring break were also encouraged to participate in the study at a group planning meeting held during the first two weeks of the semester. The researcher asked faculty members using academically-based service-learning to make an announcement encouraging students that are randomly selected to participate in this study. Students invited to participate in the study were entered into drawing for two \$50 gift certificates to the college bookstore.

Data Analyses

Data analyses were done in two steps. First, scores on the SDTLA were calculated as defined by the Student Developmental Task and Lifestyle Assessment manual (1999). For this study, all statistical analyses were conducted using SPSS statistical software. For each of the two developmental tasks that were tests (Developing Autonomy, and Developing Mature Interpersonal Relationships), a t-score was calculated (Winston, Miller and Cooper, 1999). A t-score was also calculated for each of the subtasks of the two developmental tasks. For the Developing Autonomy task, the subtasks calculated were the Academic Autonomy, Emotional Autonomy, Instrumental Autonomy and Interdependence subtasks. For the Developing Mature Interpersonal Relationships task, the Peer Relationships and Tolerance subtasks were calculated using a t-score. A pre-test SDTLA score and post-test SDTLA score were calculated for the combined tasks for each subject. Next, appropriate descriptive and inferential statistics were used to address the research questions. Mean, standard deviation, effects sizes, multiple *t* tests and other statistical analyses were used to report the results of the research questions. The researcher conducted an analysis of variance (ANOVA) to determine whether students' "SDTLA difference score" varied according to the type of service learning. A difference score for each of the two developmental tasks (post-test SDTLA minus pre-test SDTLA) was computed and served as a dependent variable in an ANOVA test to determine whether scores varied by type of service learning. This dependent variable score was compared to the three types of

service-learning pedagogies. This dependent variable was also used in comparison to the baseline non-service-learning group.

Limitations

Some limitations to this study involve the sample size. Since one of the service-learning groups, alternative spring break, only takes about 60 students on the trips, this study was limited to four groups of sixty potential subjects. However, the total numbers of subjects who responded to the survey (112) should provide enough power ($d=.70$) to find significant results to the data analysis for this study (Howell, 2002). Further recommendations and limitations of this study will be explored in Chapter Five.

CHAPTER FOUR

RESULTS

The intent of this study was to investigate the outcomes of three distinct service-learning models: ongoing continuous service throughout a semester in co-curricular service-learning; one time, intensive week-long spring break service-learning trips; and ongoing service through a semester of academically-based service-learning. This study explored one particular student outcome, psychosocial development, among college students involved in three different types of service-learning. This was achieved by administering to college students involved in each of the three pedagogies of service-learning a pre-test and post-test Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b). A fourth control group of students was used for comparative purposes. This study explored the questions: Do students involved in distinct types of service-learning have different psychosocial development outcomes? Are the student psychosocial development outcomes different for students who participate in service-learning and those who do not? Does the spring break service-learning pedagogy lead to developmentally distinct outcomes when compared to the other service-learning types?

This chapter, Chapter Four, begins with a description of the sample involved in the study, including total number of participants, demographic data and types of service-learning involvement. This is followed by analyses of the

data collected to test the three hypotheses in this study. Mean, standard deviation, multiple *t* tests and other statistical analyses were used to report the results of the research questions. The researcher conducted an analysis of variance (ANOVA) to determine whether students' "SDTLA difference scores" varied according to the type of service learning. A difference score for each of the two developmental tasks (post-test SDTLA minus pre-test SDTLA) was computed and served as a dependent variable in an ANOVA test to determine whether scores varied by type of service-learning. The dependent variable (SDTLA difference score) was compared across the three types of service-learning pedagogies and the baseline non-service-learning group. Analysis of variance (ANOVA) is used to test hypotheses about difference between two or more populations. ANOVA can be used to test differences among several means for significance without increasing the Type I error rate. The ANOVA enables one to tell whether one population mean is different from at least one other population mean by conducting multiple T-tests. The ANOVA does not reveal which means differ from which others. To further understand the significant differences between the various pedagogies studied, the post-hoc procedure, Tukey "Honestly Significant Difference" HSD test was employed. The results of these tests are presented in this chapter.

Description of the sample

The population for this study was comprised of currently enrolled, traditional age, full-time, degree-seeking students at a private, liberal arts college

located in the Midwest. The population was selected using a stratified random sample selection design. Four distinct groups of 60 students representing a sample size of 240 participants were invited to participate in this study. Students who completed the first pre-test SDTLA represented 82% of the sample (164 subjects). Of the 164 subjects who completed the pre-test, 112 chose to continue participation in the study by completing the post-test SDLTA. This represented 68% of the pre-test sample group and 47% of the original entire sample.

The students who were asked to join this study were already participating during the previous semester in three distinct service-learning areas. One group of sixty students who were involved in academically-based service-learning were invited to participate in this study. These students were participating in a service-learning project connected to their course content. Thirty-one students from this group representing 52% of the sample completed both the pre and post surveys. Another group of sixty students involved in co-curricular service-learning facilitated through the college's service-learning office were invited to participate. These students were involved in continuous service-learning projects throughout the semester at locations such as thrift stores, after school programs, and homeless shelters. From the co-curricular service-learning group, twenty-five students representing 42% of the sample completed the pre and post survey. The third group of students was involved in the college's service-learning alternative spring break trips. These sixty invited students traveled during the college spring vacation to a location to serve for a week, and had thirty-one

students representing 52% of the sample complete the SDTLA assessment. A final group of sixty students who were not involved in service-learning were chosen at random from the college student population to serve as a baseline group. This control group had twenty-five participants representing 42% of the sample complete both assessments. As Table 1 illustrates, the 112 subjects that completed the pre and post test of the SDTLA represent 47% of the sample invited to participate.

Table 1

Sample by Service-Learning Pedagogy

	Pre-test subjects	Post-test subjects	% of entire sample
Academically-based Service-learning	46	31	52%
Co-curricular Service-learning	38	25	42%
Alternative spring break trips	39	31	52%
Baseline Control Group	41	25	42%
Total Sample	164	112	47%

Demographic data collected from the study participants included gender, class standing, racial background and present living situation. This information is presented in Table 2 and broken into the three service-learning groups and one control group. The sample was divided into thirty-two males (28.6%) and eighty females (71.4%). From Table 2 it can be seen that the one to three proportion of gender, although not typical in the general student population of the institution, holds relatively consistent in each of the three types of service-learning and control group. The class standing of participants was fairly consistent across the

four groups, with first-year students making up the largest group with 33% of the surveyed sample. The ethnic or cultural background of the subjects approximated the larger campus population of the private, liberal arts college with about 4% students of color, and 96% students from a white or Caucasian background. The living situation of the sample was reflective of the residential campus studied. However, the 92% of the respondents in the co-curricular service-learning group lived on-campus, which did not reflect the overall sample. These data were collected in order to describe the sample and the consistency between the four groups and are not directly related to the hypotheses tested.

Table 2

Gender, Class and Living Situation by Service-Learning Pedagogy

	Academically-based SL	Spring Break SL	Co-curricular SL	Control Group	Total Sample
GENDER	22-females 9-males	23-females 8-males	18-females 7-males	17-females 8-males	80-females (71.4%) 32-males (28.6%)
CLASS	8-first-year 9-sophomores 7-juniors 7-seniors	11-first-year 7-sophomores 9-juniors 4-seniors	10-first-year 10-sophomores 2-juniors 3-seniors	8-first-year 6-sophomores 4-juniors 7-seniors	37-first-year (33%) 32-sophomore (28%) 22-juniors (20%) 21-seniors (19%)
LIVING SITUATION	22 on-campus 9 off-campus	26 on-campus 5 off-campus	23 on-campus 2 off-campus	16 on-campus 9 off-campus	87 On-campus (77%) 25 Off-campus (23%)

Description of the Data Analysis

Descriptive statistics were calculated for the eight dependent variables (two SDTLA tasks and six SDTLA subtasks) used in this study. A thorough description of the dependent variables is found in Chapter Three. For purposes of interpretation, raw scores from the SDTLA assessment were converted to individual T scores, for which the mean was set at 50 and the standard deviation

was set at 10 (Winston, Miller, & Cooper, 1999). Scores were calculated for the pre-test of the SDTLA and for the post-test of the SDTLA according to the Technical Manual of the Student Developmental Task and Lifestyle Assessment. A difference score (post-test minus pre-test) was calculated for each of the two tasks, Developing Autonomy and Developing Mature Interpersonal Relationships. For further analysis, a difference score (post-test minus pre-test) was calculated for each of the four subtasks in the Developing Autonomy task. For the SDTLA instrument, a subtask is defined as “a more specific component or part of a larger developmental task (Winston, Miller & Cooper, 1999). The subtasks are Academic Autonomy, Emotional Autonomy, Instrumental Autonomy, and Interdependence. A difference score (post-test minus pre-test) was also calculated for the subtasks of the Developing Mature Interpersonal Relationships Task, which are Peer Relationships subtask and Tolerance subtask.

Results of First Hypothesis tested

The first hypothesis to be tested as part of the research questions was whether the “SDTLA difference scores” of traditional college students significantly differed across the three types of service-learning. The “SDTLA difference scores” were calculated by obtaining the post-test minus the pre-test on the two developmental tasks generated from the SDTLA: Developing Autonomy and Developing Mature Interpersonal Relationships. Table 3 compares the means and standard deviations of the difference scores for these two SDTLA tasks within the four subject groups.

Table 3

Mean and Standard Deviations for Developing Autonomy and Developing Mature Interpersonal Relationships Tasks

	Autonomy	Relationships	N
Control/Baseline	.8584 (4.01)	2.6400 (4.89)	25
Co-curricular SL	-.7767 (3.49)	2.5643 (5.61)	25
Academic SL	.3785 (8.04)	3.6917 (6.67)	31
Spring Break SL	3.6054 (4.99)	4.2707 (4.10)	31

As shown in Table 3, there appears to be only small differences between the means of the four groups, with exception of the Spring Break Service-Learning group. An analysis of variance (ANOVA) was conducted as part of the study to test the differences between the means, as well as the Tukey HSD post-hoc procedures. Tables 4 and 5 summarize the ANOVA for the two developmental tasks. Data presented in Table 4 for the Developing Autonomy task indicate an *F* value with three degrees of freedom between groups, which was significant at an alpha level of .05. The Developing Autonomy Task represents students who are able to meet their needs and action on their own ideas without the need for continuous reassurance from others; can structure their lives and manipulate their environment in ways that allow them to satisfy daily needs and meet responsibilities with extensive direction from others; structure their time and devise effective study strategies to meet academic expectations; and recognize

the reciprocal nature of the relationships between the individual and her/his community and acts as a responsible, contributing member.

Table 4

Analysis of Variance for Developing Autonomy Task

Source	df	Sum of Squares	Mean Squares	<i>F</i>
Between Groups	3	300.179	100.060	3.205*
Within Groups	108	3371.324	31.216	
Total	111	3671.503		

*Significant at the .05 level

The ANOVA for the Developing Mature Interpersonal Relationships Task presented in Table 5 did not show any significant difference between the groups $F(3, 108) = .657, p=.580$.

Table 5

Analysis of Variance for Developing Mature Interpersonal Relationships

Source	df	Sum of Squares	Mean Squares	<i>F</i>
Between Groups	3	57.906	19.302	.657
Within Groups	108	3173.732	29.386	
Total	111	3231.638		

The post-hoc procedure employed the Tukey HSD method to investigate the differences within the Developing Autonomy task. The Tukey HSD provides a value that allows the researcher to make comparisons of means after a significant *F*-value has been observed in an ANOVA. The significant comparison between the Spring Break Service-Learning group and the Co-curricular Service-

Learning group is presented in Table 6. The Tukey method showed a statistically significant difference in developing autonomy for students who engaged in the Spring Break Service-Learning pedagogy when compared to students who participated in the Co-curricular Service-Learning pedagogy. The students involved in Spring Break Service-Learning had significantly more development on this SDTLA Task than those involved in Co-curricular Service-Learning.

Table 6

Post-hoc Tukey Results for Developing Autonomy Task

	Type	Mean Difference	Std. Error	Sig.
Spring Break Service-Learning	Control	2.7469	1.50187	.265
	Academic SL	3.2269	1.41913	.111
	Co-curricular SL	4.3820*	1.50187	.022

*Significance at the .05 level

To further understand the differences between the three service-learning pedagogies, an ANOVA for the subtasks for the Developing Autonomy Task were conducted to further determine any significant differences between the three service-learning pedagogies and the control group. The mean scores and standard deviations for the four subtasks that constitute the Developing Autonomy Task are presented in Table 7.

Table 7

Mean, Standard Deviations for Academic Autonomy subtask, Emotional Autonomy subtask, Instrumental Autonomy subtask, and Interdependence subtask

	Academic	Emotional	Instrumental	Interdependence	N
Control/Baseline	6.369 (12.87)	-8.118 (14.80)	1.496 (15.43)	2.276 (12.76)	25
Co-curricular SL	8.857 (18.57)	-1.495 (10.64)	11.585 (14.92)	17.724(12.27)**	25
Academic SL	3.976 (8.04)	-8.610 (15.29)	6.160 (16.16)	3.133 (16.54)	31
Spring Break SL	8.646 (16.00)	-4.763 (11.69)	8.528 (16.10)	9.633 (16.05)	31

**Significance at the .001 level

While the subtasks of Academic Autonomy, Emotional Autonomy, and Instrumental Autonomy had mean difference scores that were greater than the control group, these were not found to be statistically significant differences. The Interdependence subtask, which reflects the relationship between the individual and her/his community, produced a significant difference $F(3, 108) = 6.136$, $p=.001$.

Table 8

Analysis of Variance for Interdependence subtask

Source	df	Sum of Squares	Mean Squares	F
Between Groups	3	4000.072	1333.357	6.136**
Within Groups	108	23466.768	217.285	

Table 8 (cont'd)

Total	111	27466.839		
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****Significant at the .001 level**

The Tukey post-hoc procedure tests for significant differences between the four groups on the Interdependence subtask of the SDTLA. The significant differences at the .01 level between the Control Group and Co-curricular Service-Learning Group, and Academically-based Service-Learning Group and Control Group and the Co-curricular Service-Learning Group are presented in Table 9. The Tukey method showed a statistically significant difference in developing the interdependence subtask for students who engaged in the Co-curricular Service-Learning pedagogy when compared to students who did not participate in any service-learning or those who participated in the Academically-based Service-Learning. The students involved in Co-curricular Service-Learning had significantly more development on this SDTLA Subtask than those involved in either of the other groups.

Table 9

Post-hoc Tukey Results for Interdependence SubTask

	Type	Mean Difference	Std. Error	Sig.
Control Group	Spring Break SL	-7.3572	3.96240	.253
	Co-curricular SL	-15.4478**	4.16927	.002
	Academic SL	-.8564	3.96240	.996

****Significance at the .01 level**

Table 9 (cont'd)

	Type	Mean Difference	Std. Error	Sig.
Co-curricular SL	Control Group	15.4478**	4.16927	.002
	Spring Break SL	8.0906	3.96240	.179
	Academic SL	14.5913**	3.96240	.002

**Significance at the .01 level

The Mature Interpersonal Relationships Task is defined by two subtasks: Peer Relationships and Tolerance. An ANOVA for the subtasks for the Mature Interpersonal Relationships Task was conducted to further determine any significant differences between the three service-learning pedagogies and the control group. The mean scores and standard deviations for the two subtasks that constitute the Mature Interpersonal Relationships Task are presented in Table 10.

Table 10

Mean, Standard Deviations for Peer Relationships Subtask and Tolerance Subtask

	Peer Relationships	Tolerance	N
Control/Baseline	1.179 (17.57)	.957 (12.29)	25
Academic SL	-1.884 (14.10)	4.672 (10.93)	31
Spring Break SL	4.167 (14.29)	7.669 (8.67)	31
Co-curricular SL	6.605 (15.93)	11.724 (8.36)**	25

** Significance at the .01 level

While the Spring Break Service-Learning group and the Co-curricular Service-Learning group had mean scores that were greater than the Control group on the subtasks of Peer Relationships, these were not found to be significant differences. The Tolerance subtask, which reflects respect for and acceptance of these of different backgrounds, beliefs cultures races, lifestyles and appearances, produced a significant difference $F(3, 108) = 5.129, p=.002$.

Table 11

Analysis of Variance for Tolerance Subtask

Source	df	Sum of Squares	Mean Squares	<i>F</i>
Between Groups	3	1589.24	529.74	5.129**
Within Groups	108	11154.73	103.28	
Total	111	12743.98		

**Significant at the .01 level

The Tukey post-hoc procedure tests for significant differences between the four groups on the Tolerance subtask of the SDTLA. The significant differences between the Control Group and Co-curricular Service-Learning Group at the .01 level are presented in Table 12. The Tukey HSD test also produced differences between the Control Group and the Spring Break Service-Learning Group, $p = .073$, and between Co-curricular Service-Learning Group and the Academically-based Service-Learning Group, $p = .054$.

Table 12

Post-hoc Tukey HSD Results for Tolerance Subtask

	Type	Mean Difference	Std. Error	Sig.
Control Group	Spring Break SL	-6.7119	2.7318	.073
	Co-curricular SL	-10.7677**	2.8745	.002
	Academic SL	-3.7156	2.7318	.527

****Significance at the .01 level**

The first hypothesis tested was whether the “SDTLA difference scores” of traditional college students would significantly differ across the three types of service-learning. An ANOVA and Tukey post-hoc test were utilized to compare the three different types of service-learning with the eight dependent variables (two SDTLA tasks and six SDTLA subtasks) used in this study. A statistically significant difference was found between the Spring Break Service-Learning type and the others on the Developing Autonomy Task. In addition, a statistically significant difference was found on three SDTLA subtasks for the Co-curricular Service-Learning type when compared to the others. The meaning and significance of these results will be discussed more fully in Chapter Five.

Results of Second Hypothesis tested

The second hypothesis tested as part of the research questions was whether the “SDTLA difference scores” of traditional college students significantly

differed for students involved in the three types of service-learning from those not involved in service-learning (control group). The “SDTLA difference scores” were once again calculated by obtaining the post-test minus the pre-test on the two developmental tasks generated from the SDTLA: Developing Autonomy and Developing Mature Interpersonal Relationships. The three groups of service-learning pedagogies were regrouped into one service-learning group to compare to the non-service-learning control group. An independent sample T-test was conducted to determine any differences. Using SPSS, the unequal sample size of the two groups was accounted for in the T-test. Table 13 compares the means and standard deviations for these two tasks within the two groups.

Table 13

Mean and Standard Deviations for Developing Autonomy and Developing Mature Interpersonal Relationships Tasks

	Autonomy	Relationships	N
Service-Learning	1.1963 (6.17)	3.5740 (5.53)	87
Control/Baseline	.8584 (4.01)	2.6400 (4.89)	25

While the mean difference scores of the Service-Learning group appear to be higher than the control group in both the Developing Autonomy Task and the Developing Mature Interpersonal Relationships Task, the independent sample T-test did not prove them to be significantly different, Autonomy $t(110)=.258$, $p=.797$ and Relationships $t(110)=.761$, $p=.448$.

To determine whether there were differences between the Service-Learning group and the Control group on the six subtasks of the SDTLA, an independent sample t-test was conducted. The data suggest that there are indeed significant differences between the Service-Learning group and the Control group. Specifically, there are statistically significant differences for the Instrumental Autonomy subtask, $t(110) = 1.984$, $p = .05$, Interdependence subtask, $t(110) = 2.095$, $p = .038$, and Tolerance subtask $t(110) = 2.892$, $p = .005$. The mean scores and standard deviations for the six subtasks are shown in Table 14. The meaning and significance of these results will be discussed more fully in Chapter Five.

Table 14

Mean and Standard Deviations for the Academic Autonomy, Emotional Autonomy, and Instrumental Autonomy, Interdependence, Peer Relationships, and Tolerance subtasks

	Acad.	Emot.	Instru.	Interd.	Peer	Toler.	
Service-Learning	7.04 (17.00)	-5.19 (13.00)	8.56* (15.76)	9.64* (16.17)	2.71 (14.97)	7.76* (9.77)	87
Control/Baseline	6.36 (12.87)	-8.11 (14.80)	1.46 (15.43)	2.27 (12.76)	1.17 (17.57)	.95 (12.29)	25

*Significance at the .05 level

Results of Third Hypothesis tested

The third hypothesis tested as part of this research project was whether the "SDTLA difference scores" for the alternative spring break service-learning

pedagogy significantly reflected the most positive difference when compared to the other two pedagogies. Using the SDTLA differences scores for the Developing Autonomy Task and the Developing Mature Interpersonal Relationships Task, Table 3 shown previously in this chapter, compares the means and standard deviations for these two tasks within the four subject groups. The Spring Break Service-Learning group had the largest mean difference scores on the SDTLA developmental tasks when compared to the other service-learning pedagogies. However, this difference was only found statistically significant at the .05 level when compared to the Co-curricular Service-Learning group. As shown in Table 6, the Tukey HSD post-hoc procedure measured a mean difference of 4.3820, $p = .022$.

To further understand the differences between the Spring Break Service-Learning Group and the other two Service-Learning groups, a Multivariate Analysis of Variance (MANOVA) was performed. A MANOVA is a technique used to assess group differences across multiple dependent variables simultaneously. This produced similar results with significant differences found on the Developing Autonomy task between the Spring Break Service-Learning group and the other two Service-Learning groups $F(3) = 3.205$, $p = .026$. In the multivariate tests, Roy's Largest Root found an $F = 3.220$, $p = .026$. The meaning and significance of these results will be discussed more fully in Chapter Five.

Summary of Results

The intent of this study was to investigate the outcomes of service-learning from three distinct models: ongoing continuous service throughout a semester in co-curricular service-learning; one time, intensive week-long spring break service-learning trips; and ongoing service through a semester of academically-based service-learning. This study explored one particular student outcome, psychosocial development, among college students involved in three different types of service-learning. This was achieved by administering to college students involved in one of the three pedagogies of service-learning the Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b). A total of 112 participants were involved in this study.

Three hypotheses were tested in an attempt to answer the stated research questions. The comprehensive results of this study are shown in Figure 4.

Figure 4: Statistically Significant SDTLA differences across the Service-Learning Pedagogies

	Autonomy Task	Relationships Task	Instrumental Subtask	Interdependence Subtask	Tolerance Subtask
Academic SL					
Co-Curricular SL				Significant .01	Significant .01
Spring Break SL	Significant .05				

The first hypothesis tested whether “SDTLA difference scores” of traditional college students significantly differed across the three types of service-learning. It was found that there were significant psychosocial developmental differences

among the three types of service-learning on the Developing Autonomy Task, the Interdependence Subtask, and the Tolerance Subtask. The second hypothesis tested was whether “SDTLA difference scores” of traditional college students would significantly differ for students involved in the three types of service-learning from those not involved in service-learning (control group). A statistically significant difference was found between the Service-Learning group and the Control group on the Instrumental Autonomy, Interdependence, and Tolerance subtasks. The final hypothesis tested was whether “SDTLA difference scores” for the alternative spring break service-learning pedagogy reflected the most significant differences when compared to the other two pedagogies. A statistically significant difference was found between the Spring Break Service-Learning group and the Co-curricular Service-Learning group on the Developing Autonomy task. A thorough discussion of these results and their impact on service-learning pedagogies will be presented in Chapter Five.

CHAPTER FIVE

FINDINGS, CONCLUSIONS & RECOMMENDATIONS

Introduction

During the past decade, there has been a marked increase in interest in the pedagogy of service-learning. Many postsecondary educators have unitized service-learning as part of their curriculum and co-curriculum. For purposes of this study, service-learning is defined as “a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of service-learning” (Jacoby, 1996, p.5). A well-planned service-learning project allows students to learn and develop through active participation in a carefully planned service that is developed to meet and address the needs of a community.

Much of the research conducted to date speaks to the degree to which service-learning has a positive effect on students' general personal and cognitive development (e.g., Eyler & Giles, 1999; Jacoby, 1996; Sax & Astin, 1997). However, relatively little is known about whether the various types of service-learning are effective tools for developing students and what the differences may be between these service-learning pedagogies. Accordingly, this study examined the outcomes of service-learning from three distinct models to

determine their developmental impact on student participants. In this chapter, the problem, hypotheses, population and sample, statistical methods, independent and dependent variables are restated. In addition, the findings, implications, and final recommendations are reported.

Statement of the Problem

Service-learning has been shown to have an impact on the growth and development of college students (Astin, Sax, & Avalos, 1999; Eyler & Giles, 1999; Rhoads, 1997). The use of service-learning has varied in postsecondary education with different methods employed by faculty and student life educators (Delve, Mintz & Stewart, 1990). These types of service-learning pedagogies have needed further investigation in terms of outcomes for students (Campus Compact, 1998). This study explored the outcomes of service-learning from three distinct models: ongoing continuous service throughout a semester in co-curricular service-learning; one time, intensive week-long spring break service-learning trips; and ongoing service through a semester of academically-based service-learning. A fourth control group of students was used for comparative purposes. This study investigated one particular student outcome, psychosocial development, among college students involved in three different types of service-learning by administering the Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b). This instrument was devised to measure students on several developmental vectors defined by Chickering and Reisser (1993). In particular, this study examined the Developing

Autonomy Task and the Developing Mature Interpersonal Relationships Task, as well as the various subtasks that provide specific components of the larger developmental task. This instrument was given to participants as a pretest at the beginning of the academic semester, and then again at the end of the academic semester as a posttest to determine the developmental differences gained.

This study explored the questions: Do students involved in distinct types of service-learning have different psychosocial development outcomes? Are the student psychosocial development outcomes different for students who participate in service-learning and those who do not? Does the spring break service-learning pedagogy lead to developmentally distinct outcomes when compared to the other service-learning types?

Three hypotheses were tested in an attempt to answer the stated research questions:

1. The "SDTLA difference scores"* of traditional college students will significantly differ across the three types of service-learning.
2. The "SDTLA difference scores"* of traditional college students will significantly differ for students involved in the three types of service-learning from those not involved in service-learning (control group).
3. The "SDTLA difference scores"* for the alternative spring break service-learning pedagogy will reflect the most significant differences when compared to the other two pedagogies.

** "SDTLA difference score" is a derived score when a post-SDTLA score is subtracted from a pre-SDTLA score.*

This study employed a classic pretest-posttest control group design to test the hypothesis whether psychosocial development, the dependent variable, was different among students who participate in co-curricular service-learning, academically-based service-learning and service-learning spring break trips, the independent variables.

Study Population and Sample

The population for this study comprised currently enrolled, traditional age, full-time, degree-seeking students at a private, liberal arts college located in the Midwest. The population was selected using a stratified random sample selection design. The students asked to join this study were already participating in three distinct service-learning pedagogies. One group of sixty students who were involved in academically-based service-learning was invited to participate in this study. These students were involved in a service-learning project connected to their course content. Another group of sixty students involved in co-curricular service-learning facilitated through the college's service-learning office was invited to participate. These students were involved in continuous service-learning projects throughout the semester at locations such as thrift stores, after-school programs, and homeless shelters. The third group of students was involved in the college's service-learning alternative spring break trips. These sixty students invited to participate traveled during the college spring vacation to a location to serve for a week. A final group of sixty students who were not

involved in service-learning was chosen at random from the college student population to serve as a baseline group.

In total, four distinct groups of 60 students representing a sample size of 240 participants were invited to participate in this study. Students who completed the first pre-test SDTLA represented 82% of the sample (164 subjects). Of the 164 subjects who completed the pre-test, 112 chose to continue participation in the study by completing the post-test SDLTA. This represented 68% of the pre-test sample group and 47% of the original sample invited to participate in this study.

Statistical Methods

Descriptive and inferential statistics were calculated for the independent variable in this study, service-learning type, which was operationalized into three fixed categories, and a fourth baseline control group and for the eight dependent variables, which were the tasks and subtasks of the Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller & Cooper, 1999b). Mean, standard deviation, multiple t tests, an analysis of variance (ANOVA), a multivariate analysis of variance (MANOVA), and Tukey HSD method were used to report the results of the research questions.

Findings and Implications

Based on the findings of this study, there is a significant difference in the psychosocial development outcomes between the three service-learning

pedagogies. In particular, the results show that, based on the SDTLA Developmental Tasks, the spring break service-learning pedagogy has the most statistically significant developmental differences. In addition, it seems that on the SDTLA Developmental Subtasks, participants involved in the co-curricular service-learning pedagogy experienced the most psychosocial development. The implications of these findings will be explored further through the three research questions.

First Research Question

The first research question asked whether students involved in distinct types of service-learning had different psychosocial development outcomes. In order to answer this question, the first hypothesis that was tested was whether the “SDTLA difference scores” of traditional college students significantly differed across the three types of service-learning. The SDTLA difference score is a score calculated when the raw post-SDTLA score is subtracted from the raw pre-SDTLA score. An analysis of variance (ANOVA) was conducted to determine the differences between the four independent variables, three service-learning pedagogies and control group, and the two SDTLA developmental tasks, Developing Autonomy and Developing Mature Interpersonal Relationships. While no significant differences were found on the Developing Mature Interpersonal Relationships Task, a statistically significant difference was found between the Spring Break Service-Learning group and the Co-curricular Service-Learning group on the Developing Autonomy Task (see Table 3 and Table 6).

The Developing Autonomy Task measures the psychosocial development of students who: (a) are able to meet their needs and action on their own ideas without the need for continuous reassurance from others; (b) can structure their lives and manipulate their environment in ways that allow them to satisfy daily needs and meet responsibilities without extensive direction or support from others; (c) structure their time and devise and execute effective study strategies to meet academic expectations without the need for direction from others; and (d) recognize the reciprocal nature of the relationship between the individual and his or her community and acts as a responsible, contributing member. While a statistically significant difference was found between the Spring Break Service-Learning group and the Co-curricular Service-Learning group on the Developing Autonomy Task, it seems clear from the mean scores that the difference was due to a strong difference score from the Spring Break Service-Learning group, rather than a lack of development from the Co-curricular Service-Learning group. The students involved in Spring Break Service-Learning had significantly more development on this SDTLA Task than those involved in Co-curricular Service-Learning. A thorough discussion of the possible reasons for this difference is presented in the section examining the third research question and hypothesis tested.

To further understand the differences in developmental gains between the three types of service-learning models, the subtasks of the Developing Autonomy Task were investigated. The Developing Autonomy Task had four subtasks: Emotional Autonomy subtask, Academic Autonomy subtask, Instrumental

Autonomy subtask, and Interdependence subtask. While the subtasks of Academic Autonomy, Emotional Autonomy, and Instrumental Autonomy had mean scores that were greater than the control group, these were not found to be of statistical significance. On the Interdependence subtask, a significant difference between the Co-curricular Service-Learning group and the Control group was found ($p=.001$). In addition, a significant difference was found between the Academically-based Service-Learning group and the Co-curricular Service-Learning group ($p=.01$, see Table 7 and Table 9).

The Interdependence subtask measures the reciprocal nature of the relationship between the individual and his/her community. Students who have high scores on this subtask fulfill their citizenship responsibilities and are actively involved in activities that promote improvement of the institution and the larger community. Concern for others is reflected in these students' awareness of how their behavior affects the community (Winston, Miller & Cooper, 1999b). Given this result, this research provides evidence that students involved in Co-curricular Service-Learning have greater psychosocial development in the area of citizenship and community awareness and development, than the other service-learning types and the control group.

One of the reasons for the developmental difference found for spring break service-learning and co-curricular service-learning might stem from the nature of these two types of service-learning. For example, spring break service-learning offers a social component to service-learning whereas academically-based service-learning does not offer this aspect as clearly. The spring break

service-learning includes a significant amount of time for students to socialize together, and has the added dimension of being an immersion experience, which typically does not happen in an academically-based service-learning experience. The power of immersion experiences in service-learning was documented by Pompa (2002) who found these educational experiences provide learning dimensions that are difficult to achieve in a tradition classroom. Pompa (2002) writes, "different from the idea of service-learning as a 'feel good' experience, which can be transient and ephemeral, what we are talking about here involves depth, direction, hard work, and a commitment to make change in the world" (p. 74). Immersion experiences in service-learning, such as spring break trips, have the power to turn things inside-out and upside-down for those engaged in them. It provokes one to think differently about the world, and to consider one's relationship to the world in a new way (Rhoads, 1997).

Another factor affecting the results of the study might be individual motivation to join these two types of service-learning experiences. Both co-curricular service-learning and spring break service-learning are voluntary programs. Students choose to spend their spring vacation from postsecondary education participating in a service-learning project. For co-curricular service-learning, participants make a weekly commitment to serve, and this motivation is not rewarded through curricular means. Some students enjoy the work of service-learning and desire to be involved in these activities, and therefore choose to be involved in co-curricular and spring break service-learning. Conversely, students involved in academically-based service learning often are

unaware when they enroll for a course that service learning is a component unless it is mentioned in the course description. This motivation to be involved in the service-learning experience may affect the results of this study.

To further understand the differences in developmental gains between the three types of service-learning models and the control group, the subtasks of the Mature Interpersonal Relationships Task were investigated. The Mature Interpersonal Relationships Task had two subtasks: Peer Relationships subtask and Tolerance subtask. Once again, the mean scores for the Spring Break Service-Learning group and the Co-curricular Service-Learning group show the developmental differences as compared to the Academically-based Service-Learning group and the Control group. The statistically significant difference was found on the Tolerance subtask between the Co-curricular Service-Learning group and the Control group ($p = .002$, see Tables 10 and 12). The Tolerance subtask is defined as “the respect for and acceptance of those of different backgrounds, beliefs, cultures, races, lifestyles and appearances” (Winston, Miller & Cooper, 1999b, p.12). Students who score high on this subtask respond to people as individuals and do not perpetuate racial, sexual or cultural stereotypes. According to this subtask, tolerance involves an openness to and acceptance of differences and does not mean shielding oneself from the values and ideas of those with different backgrounds, lifestyles, or belief systems. The students who score high on the Tolerance subtask do not shy from or reject contact with those with different ethnic, racial, or cultural heritage or with different religious beliefs, political views, or lifestyles (Winston, Miller & Cooper, 1999b).

Co-Curricular Service-Learning

The significant difference in developmental growth for participants in co-curricular service-learning on the Independence and Tolerance Subtask is an important finding. Development in civic responsibility and understanding differences are two key goals of service-learning professionals (Astin, Sax, & Avalos, 1999; Campus Compact, 2002; Dalton & Petre, 1997; Green & Diehm, 1995). It was found in previous studies that service-learning has a positive effect on students' sense of social responsibility and citizenship skills (Astin & Sax, 1998; Eyler, Giles & Braxton, 1997; Mabry, 1998). Of the eight SDTLA subtasks that were studied as part of the psychosocial development of students, it seems that the Interdependence and Tolerance subtasks are the most directly related to the developmental goals of service-learning. Civic responsibility and tolerance are values that service-learning professionals aspire to develop in their participants; therefore, it is intuitive that these subtasks were found to have significant differences across the various pedagogies. This study affirms the belief that co-curricular service-learning can be a powerful tool for facilitating tolerance and civic engagement within college students. With this knowledge, service-learning practitioners should design co-curricular service-learning with a focus on this knowledge set.

One reason for these differences between the service-learning pedagogies might stem from the nature and focus of co-curricular service-learning. Students involved in co-curricular service-learning voluntarily decided

to participate in ongoing service-learning at a community partnership provided to them by the campus service-learning office. The opportunities for service included tutoring disadvantaged, low-income children; working at a homeless shelter and food bank; and rebuilding neighborhoods through community organizations. The students' participation in this service-learning was regular throughout the semester, with students averaging 2-4 hours a week during the course of a semester. It could be argued that students may commit to be involved in co-curricular service-learning due to their interest and commitment to service, citizenship, and understanding differences in others. This may offer one explanation to the increased developmental scores on the Interdependence and Tolerance Subtasks for this group. However, when examining the pretest scores on the Interdependence and Tolerance subtasks for the Co-Curricular Service-Learning group, one does not find a higher starting point for this group. In fact, the mean scores for those involved in Co-Curricular Service-Learning were slightly lower than the control group on the Interdependence and Tolerance subtasks. This would lead the researcher to support the developmental differences resulting from this service-learning experience.

In considering other factors that may influence the developmental outcomes associated with service-learning, one must examine the relationship the office of service-learning has with the agencies, placements, or community partnerships that provide a place for students to serve. Eyler & Giles (1999) found that service-learning placements impacted learning outcomes significantly. The role that community agencies play is integral in service-learning as students'

community service work frequently takes place in these organizations. However, as Jones (2003) writes, “great care must be taken to design and sustain partnerships with community agencies that enable student-learning objectives to be realized while advancing community agency goals and activities” (p. 153). This role is often facilitated by the service-learning office in regards to co-curricular service-learning, and may have contributed developmental outcomes associated with this service-learning pedagogy.

Furthermore, the professionals involved in coordinating the co-curricular service-learning experiences are aware of the importance of reflection and reciprocity within the service-learning experience. Although reflection is an integral part of all service-learning experiences, it can be more fully utilized by trained professionals to enable students to derive meaning from the experience of service. In *A Practitioner’s Guide to Reflection in Service-Learning*, Eyler, Giles & Schmiede (1996) teach that meaningful reflection is “continuous in time frame, connected to the ‘big picture’ information provided by academic pursuits, challenging to assumptions and complacency, and contextualized in terms of design and setting” (p. 21). This knowledge by professionals involved in co-curricular service-learning may have contributed to more extensive opportunities for focused reflection, which helps produce learning outcomes. In a recent study entitled *How Service Learning Affects Students*, Astin et al. (2000) provide quantitative and qualitative results that suggest providing students with an

opportunity to process the service experience with each other is a powerful component of service-learning.

For this dissertation study, the co-curricular service-learning experiences that were examined had service-learning student leaders or others facilitating reflection exercises for student growth. It is the belief of this researcher that the processing of these co-curricular service experiences contributed to the significant differences found in this study. Many studies have found the quantity and quality of reflection to be consistently associated with learning outcomes for those involved in service-learning (Eyler & Giles, 1999; Green & Diehm, 1995; Mabry, 1998). The supervision and oversight that a service-learning office can provide the co-curricular service-learning and spring break service-learning pedagogies in terms of facilitating reflection is one of the differences between these types of service-learning and the academically-based service-learning.

It may also be that the on-going relationships established in a co-curricular service-learning experience increase the psychosocial development for the students involved. Whereas the academically-based service-learning experience was defined as 15-25 hours of service that was integrated into the for-credit classes over the course of the entire semester, the co-curricular service-learning group had regular, consistent interaction with their community partnerships throughout the semester. The depth of this latter relationship of service may have contributed to further development on the Interdependence and Tolerance subtasks.

Academically-based Service-Learning

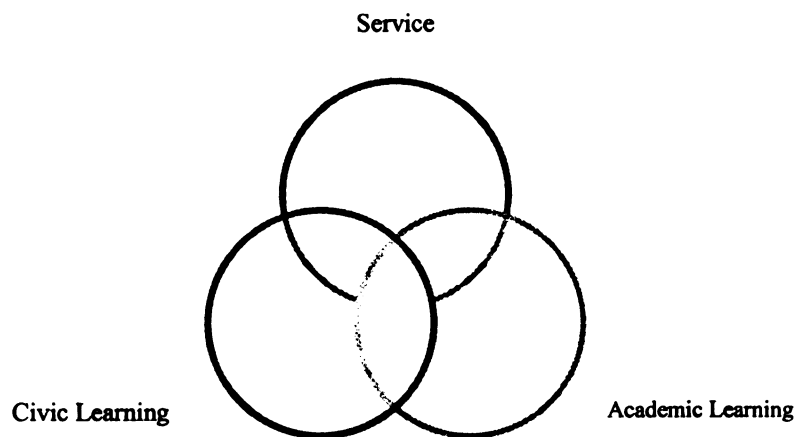
While academically-based service-learning provided some difference scores that were higher than the control group, none were found to be statistically significant. In addition, as compared to the other two service-learning methods, academically-based service-learning was found to yield the least psychosocial development differences. While this seems contrary to some of the service-learning literature, (Astin & Sax, 1998; Boss, 1994; Markus, Howard & King, 1993; Strage, 2000; Vogelgesang & Astin, 2000), this researcher believes there are some legitimate concerns in regards to the effectiveness of academically-based service-learning. These concerns and the possible reasons for the lack of psychosocial developmental differences for those participating in academically-based service-learning in this study will now be addressed.

First, some faculty are misinformed about the true nature of academically-based service-learning. Grafting a community service requirement onto an otherwise unchanged academic course does not constitute academically-based service-learning. While such models are practiced, this interpretation marginalizes the learning in, from and with the community, and presents challenges for transforming students' community experiences into learning. Moving students and the practice of service-learning beyond "getting credit for doing good," requires treating service-learning as more than a casual addition to a course. Merely giving credit for a few hours of service, even in conjunction with having students keep a log or journal of their service-learning activities, does not lead to broader connections and academic learning. To realize service-learning's

full potential as a pedagogy, community experiences must be considered in the context of, and integrated with, the other planned learning strategies and resources in the course (Howard, 2000).

Second, the models given to faculty for constructing academically-based service-learning do not take into account the importance of facilitating student development outcomes. For example, one influential model for academically-based service-learning offers three criteria as the litmus test for whether a course may be considered service-learning by faculty (Howard, 2001). These criteria are: (1) relevant and meaningful service with the community, (2) enhanced academic learning, and (3) purposeful civic learning. The following Venn diagram is given as a model for constructing academic service-learning.

Figure 5: Academic Service-Learning. (Howard, 2001).



All three criteria are necessary for a course to qualify as academic service-learning, according to this model. However, this model creates no space for

psychosocial or student development outcomes in the service-learning process. In fact, according to a course design workbook published by Campus Compact, "it is important to note that while service-learning courses may have other learning objectives and/or outcomes, such as in the social or affective domains, these are not *necessary* conditions for academic service-learning" (Howard, 2001, p.13). After performing a search of exemplary syllabi of service-learning courses gathered by Campus Compact through a national research study, only twelve of the over one hundred courses mention student development outcomes in the course objectives. With this focus on academic learning objectives, meaningful service, and civic learning, there is an absence of recognition of the importance of student development outcomes. As faculty construct academically-based service-learning courses without this awareness, it should come as no surprise that students are not coming away with these psychosocial development outcomes.

Third, the role of community in creating learning experiences should be considered in regards to academically-based service-learning. The experience of participating in service and reflecting on this service in the context of a community has provided some powerful learning experiences for students (Eyler & Giles, 1999). This sense of community is more difficult to construct in a classroom setting, especially when compared to the immersion experience of the spring break service-learning experience.

Finally, it is the belief of this researcher that student life professionals bear responsibility for the inefficiencies in constructing service-learning experiences

that further psychosocial development in the academically-based service-learning pedagogy. In an effort to construct partnerships between the learning inside and outside the classroom, student life professionals have not advocated for student development objectives within academically-based service-learning. The findings and recommendations from this study should embolden student life professionals in the service-learning field to advocate for student development outcomes in all forms of service-learning. This study affirms other previous research that found performing service as part of a course adds significantly to the benefits associated with community service for all outcomes except interpersonal skills, self-efficacy, and leadership (Astin et al., 2000). This study's emphasis on researching the psychosocial development of students may not have assessed the true value of academically-based service-learning to the academy. The researcher believes the outcomes of academically-based service-learning could be enhanced if service-learning professionals provided further training for faculty about the importance of reflection, reciprocity and mutuality within the service-learning experience. I believe the full potential of this service-learning experience could be realized.

With these recommendations in mind, it is the belief of this researcher that academically-based service-learning is an important pedagogy in the area of service-learning. When done thoughtfully, it provides a much needed connection of student learning between student life professionals and faculty. The academically-based service-learning pedagogy holds great opportunity to

collaborate between faculty and student affairs professionals in postsecondary education.

Second Research Question

The second research question, are the student psychosocial development outcomes different for students who participate in service-learning and those who do not, has already been partially addressed with the data just presented. In order to answer this question more completely, the second hypothesis that was tested was whether the “SDTLA difference scores” of traditional college students significantly differed for students involved in the three types of service-learning from those not involved in service-learning (control group). The three types of service-learning pedagogies were regrouped into one service-learning group to compare to the non-service-learning control group. In each of the SDTLA Tasks and Subtasks, the service-learning group had a higher mean difference score than the non-service-learning control group (see Tables 13 and 14). An independent sample T-test was conducted to determine any significant differences across the two SDTLA developmental tasks and the six SDTLA developmental subtasks. As shown in Table 14, there are statistically significant differences between the service-learning group and the non-service-learning control group for the Instrumental Autonomy subtask, $t(110) = 1.984$, $p = .05$, Interdependence subtask, $t(110) = 2.095$, $p = .038$, and Tolerance subtask $t(110) = 2.892$, $p = .005$.

The Instrumental Autonomy and Interdependence subtasks combine as two parts of the Developing Autonomy Task. The Instrumental Autonomy Subtask measures students' ability to structure their lives and manipulate their environment in ways that allow them to satisfy daily needs and meet personal responsibilities without assistance or support from others. Students who score high on the Instrumental Autonomy Subtask are able to manage their time and other aspects of their lives in ways that allow them to meet daily demands, fulfill community responsibilities, and satisfy personal needs. They are independent, goal-directed, resourceful and self-sufficient persons (Winston, Miller & Cooper, 1999b). The Interdependence subtask measures the extent to which students recognize the reciprocal nature of the relationship between themselves and their community, and fulfill their citizenship responsibilities.

This dissertation research supports the impact of service-learning on college students' psychosocial development, especially in Chickering and Reisser's (1993) "moving through autonomy toward interdependence" vector. Chickering and Reisser (1993) have stressed that "human development should be the organizing purpose for higher education," and postsecondary "institutions can have significant impact on student development along the major vectors" (p. 265). Chickering (2001) views the "development of a sense of self as a contributing part of the community" as a vital contribution of postsecondary education (p. 4). Chickering (2001) believes service-learning is one avenue for developing civic responsibility, and this seems to be supported by the findings in this study. The service-learning that participants were involved in during this

study helped to develop a commitment to active citizenship. This is supported by researchers Eyler, Giles & Schmiede (1996) who interviewed students involved in service-learning. One of their subjects said, "I would never have really truly understood these issues—like homelessness. . .it is learning a larger scale of these issues. Instead of just seeing myself working with the shelter or a few kids, I guess I have a picture of myself as part of a larger community working with these issues" (p. 31). Service-learning gives students an opportunity to identify a growing sense of responsibility to do something about the community problems they are encountering. This often stems from students' understanding of the systemic nature of social problems and their empathy with those with whom they are working in their service projects. Through critical reflection on these service-learning activities, students have the opportunity to be confronted with powerful experiences and be challenged to question their assumptions. This transformative learning enables some students to see their society in a new way (Mezirow, 2000).

One interesting discovery from this research question was the finding of significant difference on the Instrumental Autonomy subtask. There have been few service-learning studies that explore the development of autonomy in students. It may be that students who choose to be involved in service-learning are the type of student who are able to manage their time in ways that allow them to meet daily demands and satisfy personal needs. The increased development throughout the semester by students involved in service-learning in this study suggests that the experience contributed to their sense of being independent,

goal-directed and self-sufficient persons. The further exploration of autonomy development would be an interesting follow-up to this research.

There is a mounting body of evidence documenting the efficacy of participating in service-learning during the undergraduate years (Astin, Sax & Avalos, 1999; Bringle & Hatcher, 2000b; Eyler & Giles, 1999; Rhoads, 1997; Stienke & Buresh, 2002). This dissertation study provides further support to the notion that service-learning has a positive effect on student psychosocial development. During a time in postsecondary education when many student life professionals are being asked to validate the learning outcomes of their work, studies such as this dissertation are helpful for service-learning professionals. The findings specifically provide evidence for the importance of service-learning in developing civic responsibility and tolerance in its participants.

Third Research Question

The third research question explores the predicted differences between the spring break service-learning experience and the two other service-learning pedagogies. In order to answer this question, the third hypothesis that was tested was whether the “SDTLA difference scores” for the alternative spring break service-learning pedagogy will reflect the most significant differences when compared to the other two pedagogies. Using the SDTLA differences scores for the Developing Autonomy Task and the Developing Mature Interpersonal Relationships Task, Table 3 shown previously in Chapter Four compares the means and standard deviations for these two tasks within the four subject

groups. The mean scores for the Developing Autonomy Task show the Spring Break Service-Learning group had statistically significant developmental differences when compared to the other two pedagogies. An analysis of variance (ANOVA) and a multivariate analysis of variance (MANOVA) were conducted to determine the differences between the four independent variables, three service-learning pedagogies and control group, and the two SDTLA developmental tasks, Developing Autonomy and Developing Mature Interpersonal Relationships. A significant difference between the Spring Break Service-Learning group and the Co-curricular Service-Learning group was found. The Tukey HSD method showed a statistically significant difference in developing autonomy between students who engaged in the Spring Break Service-Learning pedagogy and those students who participated in the Co-curricular Service-Learning pedagogy. On the Developing Autonomy Task, the hypothesis that the Spring Break Service-Learning group would reflect the most significant developmental change was found to be true. However, this was not found across all SDTLA tasks and subtasks.

To further understand the differences between the three service-learning pedagogies, an ANOVA for the subtasks of the Developing Autonomy Task was conducted to determine any significant differences between the three service-learning pedagogies and the control group. In the testing of the subtasks of Academic Autonomy, Emotional Autonomy, and Instrumental Autonomy, the Spring Break Service-Learning group was found to have statistically significant mean difference scores when compared to the control group and the

Academically-based Service-Learning group. However, the Co-curricular Service-Learning had the most significant differences on the Developing Autonomy subtasks.

In addition, while the Spring Break Service-Learning group showed the most developmental difference on the Developing Mature Interpersonal Relationships Task, the Co-curricular Service-Learning group had a stronger difference score on the two subtasks, Peer Relationships and Tolerance. Therefore, the hypothesis that the Spring Break Service-Learning pedagogy will significantly reflect the most significant difference when compared to the other two pedagogies was found in the SDTLA Tasks, but not the SDTLA Subtasks.

Spring Break Service-Learning

The findings of this study provide some utility for service-learning practitioners. Some reasons for the strong difference scores for the SDTLA Tasks by the Spring Break Service-Learning type as compared to the other service-learning types will be briefly explored. First, the importance of providing quality alternative spring break opportunities from service-learning offices has been affirmed. The psychosocial development differences for students involved in the spring break service-learning trips were greatest when compared to the two other service-learning types and the control group. One reason for this difference may be due to the immersion experience of this type of service-learning, and the personal and community development aspects of these trips. Therefore, professionals working in service-learning offices should provide

opportunities for students to organize alternative spring break projects.

Currently, of the Campus Compact member schools, 60% of the service-learning offices offer spring break service-learning trips as an option (Campus Compact, 2003).

The investment in planning these trips, building community on these trips, and serving with fellow students and community partners during these trips to unfamiliar parts of the country have provided student leaders with important learning and development. Most spring break service-learning trips are advised by service-learning professionals, but planned by student leaders. This involvement in the design and facilitation of the service-learning experience has a powerful effect on student leaders (Astin, 1985). This student empowerment element is unique to spring break service-learning, and may account for some of the developmental differences. In planning for spring break service-learning trips, students and staff should intentionally facilitate the development of community for those going on the trip. The community that is built during these experiences should be intentionally developed, not just left to chance. This will foster an environment that will accelerate the psychosocial development for those involved.

In Rhoads and Neururer's (1998) qualitative study of an alternative spring break program, the service-learning experience provides some concrete examples of this unique learning opportunity. The intensity of spending a week immersed in a service-learning experience can offer a better understanding of self and community for the students involved (Rhoads & Neururer, 1998). While

the service interactions at the work site are not as prolonged as the semester-long service performed by the co-curricular service-learning group, the spring break service-learning experience offers students an opportunity to “truly live” the service experience 24 hours a day, for seven days. As noted earlier, this immersion seems to influence the learning and development of students. It also seems that the sense of community and relationships developed within the service-learning group can have profound learning outcomes. One student in Rhoads and Neururer’s (1998) study states that, “we really have a community within our group. We’re from really diverse backgrounds yet everybody really got along” (p. 111). Another explained his perception of the service-learning group as a community: “I have been influenced by the other students and volunteers here. They have left a real impression on me. We all got along and I feel very close to everyone. And it’s only been one week” (p. 112). It seems that students learned through the environment they were serving, through both the college group and the people they were assisting. This mutuality, the willingness to receive as well as give, becomes an important aspect of the spring break service-learning experience.

The findings of this study provide some legitimacy to the spring break service-learning pedagogy. There have been some reservations about affirming this pedagogy by professionals because some students tend to view service-learning work as traveling to a destination to “save the poor people.” Some professionals and researchers have questioned whether the money used to send students great distances to participate in spring break service-learning could be

used more effectively for the community by simply sending them the money (Van Engen, 2000). An example of this perspective is articulated by a community partner in Honduras who wrote, “the spring break group spent their time and money painting and cleaning the orphanage in Honduras. That money could have paid two Honduran painters who desperately needed the work, with enough left over to hire four new teachers, build a new dormitory, and provide each child with new clothes” (Van Engen, 2000, p. 21) Others acknowledge that students have various motivations for serving including guilt, curiosity about different cultures or peer pressure.

With the strength of this type of service-learning affirmed in this study, it is important to return to Rhoads and Neururer’s (1998) concept of mutuality, the willingness to receive as well as to give. They write, “students bring multiple agendas and experiences with their enthusiasm to volunteer. Staff members need to be sensitive to the experiences that shape students’ interest in and commitment to service” (p. 115). Students should be encouraged to reflect on what they are receiving in this experience of serving others. For some service-learning professionals, the spring break service-learning pedagogy may be seen as the “least serious learning experience” of the three types. However, as this study affirms, there are valuable developmental opportunities in this type of service-learning, if it is viewed as more than just “fun and games.”

This study also supports the important role that spring break service-learning plays in developing autonomy in students. The Developing Autonomy Task represents students who are able to meet their needs and action on their

own ideas without the need for continuous reassurance from others; who recognize the reciprocal nature of the relationships between themselves and their community, and who act as a responsible, contributing member. This is an important area of learning for students in postsecondary education, and should be intentionally utilized in the student life professionals' quest to foster student learning.

Given the previous studies of spring break service-learning, this researcher would have expected to see stronger significant differences on the Developing Mature Interpersonal Relationships Task for this type of service-learning. This may be due to a small sample size or other factors. The pretest score for the Peer Relationships subtask was strong ($x = 50.30$) and did not show significant differences after the posttest on this subtask. One explanation of this could be that the participants who chose to be involved in spring break service-learning already possess strong relational skills.

Recommendations for Further Research

The intent of this study was to investigate whether the distinct types of service-learning have different psychosocial development outcomes utilizing the Student Development Task and Lifestyle Assessment (SDTLA) instrument. The following are recommendations for future study, which are based on the findings and conclusions of this research.

1. A qualitative research study is needed to further explore the differences between the three service-learning pedagogies. The reason for the

differences in the psychosocial development gains in the three service-learning pedagogies is not fully known at this time. A qualitative study focused on the nature of service-learning would provide deeper understanding of the service-learning types and their impact. After finding differences between the service-learning types in this study, a study that explores the meaning in this experience would be helpful. A descriptive account of the service-learning experience seems to be lacking. There seems to be important learning that occurs in service-learning that may be more fully understood through the use of observations, interviews and other qualitative research techniques. Qualitative research on the developmental differences between the service-learning types would provide more depth, further understanding, and color to the distinctions shown in this study with the use of observations and interviews.

2. A research study that examines long-term effects of the three service-learning pedagogies is needed. This current study that conducted a pretest and posttest over the course of a semester of service-learning experiences does not account for long-term growth for students. The role of reflection and learning applied to life experiences could be more fully explored in this research design.
3. If possible, a larger sample size would possibly yield stronger conclusions and significant differences between the three service-learning pedagogies. For example, when comparing the spring break service-learning group to the control group on the difference score of the Tolerance subtask a good

effect size was calculated using Cohen's d ($d=.68$). So while the difference was not statistically significant ($p=.073$), a larger sample size may produce significant results. This was true for a few of the SDTLA Tasks and Subtasks.

4. Future studies of the developmental difference between service-learning pedagogies should be extended beyond a single higher education institution to include other colleges and universities provided that each institution has a similarly defined service-learning program with the three types of service-learning pedagogies. Students from various types of institutions may develop in unique ways given their environments. There have been few studies that address the institutional impact on service-learning outcomes.
5. The use of the Student Developmental Task and Lifestyle Assessment (SDTLA) in more service-learning studies would continue validation of this instrument for assessing student learning outcomes in particular areas of student affairs and further understanding of the outcomes as seen through Chickering's developmental model. In future studies, other instruments such as the Social Responsibility Inventory (SRI) or the Scale for Social Responsibility Development (SSRD) could be used to provide further insights and depth into the outcomes of service-learning.

In summary, future research that considers the psychosocial differences between the various service-learning types is encouraged. Hopefully, this

research has added to the literature pertaining to the outcomes of service-learning, thereby better informing student affairs and service-learning practice in higher education.

Summary of the Study

This study explored the psychosocial development outcomes of service-learning from three distinct models: ongoing continuous service throughout a semester in co-curricular service-learning; one time, intensive week-long spring break service-learning trips; and ongoing service through a semester of academically-based service-learning. A control group of students who had no involvement in service-learning was used for comparative purposes. The Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b) was administered to college students involved in each of the three types of service-learning and the control group to examine the Developing Autonomy Task and the Developing Mature Interpersonal Relationships Task, as well as the various subtasks that provide specific components of the larger developmental tasks. This instrument was administered as a pretest at the beginning of the academic semester, and then again at the end of the academic semester as a posttest to determine the developmental differences.

The findings indicated that there were significant developmental differences among the three service-learning pedagogies. In particular, the results suggested that, based on the SDTLA Developmental Tasks, the Spring Break Service-Learning pedagogy had statistically significant psychosocial

development gains. In addition, on the SDTLA Developmental Subtasks, participants involved in the Co-curricular Service-Learning pedagogy showed the greatest gains in psychosocial development. The Academically-based Service-Learning pedagogy had no statistically significant psychosocial development gains. Implications for service-learning practitioners include further understanding of the developmental outcomes of these service-learning types.

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APPENDIX A: Student Developmental Task and Lifestyle Assessment

Student Developmental Task and Lifestyle Assessment

Roger B. Winston, Jr.
Theodore K. Miller
Diane L. Cooper

The *Student Developmental Task and Lifestyle Assessment* is composed of statements shown to be typical of some students and is designed to collect information concerning college students' activities, feelings, attitudes, aspirations, and relationships. The Assessment is designed to help students learn more about themselves and for colleges to learn how to assist students more effectively. The SDTLA's usefulness depends entirely on the care, honesty, and candor with which students answer the questions.

It will require about 15-20 minutes for you to complete this questionnaire.

DIRECTIONS

For each question choose the *one response* that most closely reflects your beliefs, feelings, attitudes, experiences, or interests. Record your responses as directed.

- Consider each statement carefully, but do not spend a great deal of time deliberating on a single statement. Work quickly, but carefully.
- In this questionnaire, "college" is used in a general sense to apply to both two and four year colleges, as well as universities; it refers to all kinds of post-secondary educational institutions.
- If you have no parent, substitute guardian or parent equivalent when responding to items about parent(s).

DEMOGRAPHIC QUESTIONS

Mark your responses where you have been instructed to provide this information. It is crucial that you provide this information.

A. What is your sex? (*Select one.*)

- 1 = Male
- 2 = Female

B. What was your age at your last birthday?

C. What is your racial or cultural background? (*Select one best response.*)

- 1 = Black or African American
- 2 = Hispanic, Latino/a, or Mexican American
- 3 = Asian American or Pacific Islander
- 4 = Native American/People
- 5 = White or Caucasian/European
- 6 = Biracial or multiracial
- 7 = Other

D. What is your academic class standing? (*Selection one.*)

- 1 = Freshman (first year)
- 2 = Sophomore (second year)
- 3 = Junior (third year)
- 4 = Senior (fourth year)

E. Where do you presently live? (*Select the one best response.*)

- 1 = In on-campus residence hall
- 2 = At home with parent(s)
- 3 = At home with spouse/spouse equivalent
- 4 = In on-campus apartment/trailer/house (not with parent or spouse)
- 5 = In off-campus apartment/trailer/house (not with parent or spouse)

F. Are you an international student? (*Selection one.*)

- 1 = No
- 2 = Yes

PART 1: Questions 1 – 12

Respond to the following items by selecting:

A = True

B = False

1. I never regret anything I have done.
2. I followed a systematic plan in making an important decision within the past thirty days.
3. I like everyone I know.
4. I would prefer not to room with someone who is from a culture or race different from mine.
5. I never get angry
6. It's important to me that I be liked by everyone.
7. Since beginning college, my friends have become more frequent sources of support than my parents.
8. During the past twelve months, I have acquired a better understanding of what it feels like to be a member of another race.
9. I never say things I shouldn't.
10. I never lie.
11. Within the past twelve months, I have undertaken an activity intended to improve my understanding of culturally/racially different people.
12. I never get sad.

PART 2: Questions 13 – 46

Respond to the following statements by marking the appropriate letter:

A = Never (almost never) true of me

B = Seldom true of me

C = Usually true of me

D = Always (almost always) true of me

13. I satisfactorily accomplish all important daily tasks (e.g., class assignments, test preparation, room/apartment cleaning, eating, and sleeping).
14. It bothers me if my friends don't share the same leisure interests as I have.
15. I avoid discussing religion with people who challenge my beliefs, because there is nothing that can change my mind about my beliefs.
16. I'm annoyed when I hear people speaking in a language I don't understand.
17. I have made conscious efforts to make this college a better place to attend.
18. I have a difficult time in courses when the instructor doesn't regularly check up on completion of assignments.
19. My classmates can depend upon me to help them master class materials.
20. I avoid groups where I would be of the minority race.
21. I don't perform as well in class as I could because I fall short of requirements.
22. It's more important for me to make my own decisions than to have my parents' approval.
23. When I wish to be alone, I have difficulty communicating my desire to others in a way that doesn't hurt their feelings.
24. A person's sexual orientation is a crucial factor in determining whether I will attempt to develop a friendship with her/him.
25. I conceal some of my talents or skills so I will not be asked to contribute to group efforts.
26. It's hard for me to work intensely on assignments for more than a short time.

27. When in groups, I present my ideas and views in a way that it's clear I have given them a serious thought.
28. I feel uncomfortable when I'm around persons whose sexual orientation is different from mine.
29. It's very important to me that I am successful both inside and outside the classroom.
30. Because of my friends' urgings, I get involved in things that are not in my best interest.
31. My personal habits (e.g., procrastination, time management, assertiveness) get in the way of accomplishing my goals or meeting my responsibilities.
32. I accept criticism from friends without getting upset.
33. I get bored and quit studying after working on an assignment for a short time.
34. I try to avoid people who act in unconventional ways.
35. I have difficulty following through with decisions I have made when I discover others (e.g., parents or friends) disagree with these decisions.
36. I have difficulty disciplining myself to study when I should.
37. It's more important to me that my friends approve of what I do than it is for me to do what I want.
38. My study time seems rushed because I fail to realistically estimate the amount of time required.
39. I feel confident in my ability to accomplish my goals.
40. It's essential that those important to me approve of everything I do.

41. I find it difficult to accept some of the ways my close friends have changed over the past year.
42. Even when I'm not particularly interested in a subject, I'm able to complete course requirements satisfactorily.
43. It's important to me that I achieve to the limits of my abilities.
44. I don't socialize with people of whom my friends don't approve.
45. I use library materials, resources, and facilities effectively.
46. I try to dress so that I will fit in with my friends.

PART 3: Questions 47 – 50

Respond to the items below by
marking one of the following:

A = Strongly agree
B = Agree
C = Disagree
D = Strongly disagree

47. I have arranged my living quarters in a way that makes it easy for me to study, sleep, and relax.
48. Society has a responsibility to assist people who cannot sustain themselves.
49. As a citizen, I have the responsibility to keep myself well-informed about current issues.
50. Learning to live with students from cultural or racial backgrounds different from mine is an important part of a college education.

PART 4: Questions 51- 61

Respond to the items below by marking
one of the following:

- A = Never
- B = Seldom
- C = Sometimes
- D = Often

51. Within the past year, I have participated in activities that directly benefited my fellow students.
52. I wonder what my friends say about me behind my back.
53. I am confident in my ability to make good decisions on my own.
54. I participate in community service activities.
55. I dislike working in groups when there are a significant number of people who are from a race or culture that is different from mine.
56. I trust the validity of my values and opinions, even when they aren't shared by my parent(s).
57. I have an inner sense of direction that keeps me on track, even when I am criticized.
58. In the past six months, I have gone out of my way to meet students who are culturally or racially different from me because I thought there were things I could learn from them.
59. I feel anxious when confronted with making decisions or taking actions for which I am responsible.
60. I have used my time in college to experiment with different ways of living or looking at the world.
61. I express my disapproval when I hear others use racial or ethnic slurs or put-downs.

PART 5: Questions 62 – 80

General Responses: Select and mark the
one best response from the alternatives
provided that best describes you.

62. Within the past twelve months, I have taken a public stand on issues or beliefs when many friends and acquaintances didn't agree.
 - A. Never
 - B. Seldom
 - C. Sometimes
63. After a friend and I have a heated argument, I will . . .
 - a. never (almost never) speak to him/her again.
 - b. seldom speak to him/her.
 - c. usually speak to him/her.
 - d. always speak to him/her.
 - e. I never have disagreements with friends.
64. During the academic year,
 - A. I have organized my time well enough for me to get everything completed.
 - B. I sometimes had difficulty organizing my time well enough to get everything done.
 - C. I often had difficulty organizing my time well enough to get everything done.
 - D. I seldom seem able to organize my time well enough to do everything.
65. When faced with important decisions this year, I have . . .
 - A. relied on others – such as parent(s), friend(s), or teacher(s) – to tell me what to do.
 - B. sought information and opinions, but made the final decisions on my own.
 - C. relied on myself alone in making the decisions.
 - D. attempted to avoid making decisions as much as possible.

66. When I have heated disagreements with friends about matters such as religion, politics, or philosophy I . . .
- am likely to terminate the friendship.
 - am bothered by their failure to see my point of view but hide my feelings.
 - will express my disagreement, but will not discuss the issue.
 - will express my disagreement and am willing to discuss the issue.
 - don't talk about controversial matters.
67. I have identified, and can list, at least three ways I can be an asset to the community.
- No, I haven't thought about that much.
 - No, I don't know what I can contribute.
 - No, that's not important to me.
 - Yes.
68. During this academic year,
- I have tended to put off most school work, and assignments to the last minute and, as a result, don't do as well as I could.
 - I have often forgotten about assignments or put them off so long that I was unable to turn them in on time.
 - I have established a study routine that has enabled me to get most school work and assignments completed on time and to my own satisfaction.
 - I have established a study routine that has enabled me to get all work and assignments completed on time and to my own satisfaction.
69. I have made a positive contribution to my community (residence hall, campus, neighborhood, or hometown) within the past three months.
- No, that isn't important to me.
 - No, I don't know what I could do to make a positive contribution.
 - No, but I have tried to find ways.
 - Yes.
70. I am familiar with sources of help on campus (e.g., tutoring, counseling, academic information, library research tools and procedures, and computers).
- I really don't know much about these things.
 - I know about a few.
 - I know about most of them.
 - I know about all of them.
71. When I don't agree with someone in authority (e.g., professor, administrator), I . . .
- never express my opinion.
 - express my opinion only when I am angry.
 - express my opinion when asked.
 - express my opinion if given a chance.
 - avoid dealing with persons in positions of authority if possible.
72. Within the past three months, I have taken an active part in a recycling activity/program.
- No, recycling is too much trouble.
 - No, I don't know where to dispose of materials.
 - Yes, I have participated occasionally.
 - Yes, I have participated regularly.
 - Yes, I have participated and promoted recycling activities to others.
73. Within the past month,
- I took the initiative to bring several people together to resolve a mutual problem.
 - I joined with several people to resolve a mutual problem.
 - I have not encountered problem that needed a group effort to solve.
 - I have avoided situations that required me to work with other people in solving problems.

74. If I thought my friends would disapprove of a decision I made, I would most likely . . .
- A. try to keep them from finding out (keep it a secret).
 - B. tell them and pretend I didn't care what the thought.
 - C. tell them and explain my reasoning for this decision.
 - D. make up something to mislead them from knowing the truth.
75. In the past twelve months, I have taken an active part in activities or projects designed to improve the community, such as a charity drive, clean up campaign, or blood drive.
- A. Never
 - B. Once
 - C. Twice
 - D. Three times
 - E. Four or more times
76. Each day,
- A. I depend on my memory to make sure that I get done what needs to be done, and that works for me.
 - B. I keep a calendar or make a "To Do" list of what needs to be done each day and that works for me.
 - C. I dislike planning what I need to do; I just let things happen and that works for me.
 - D. I don't make detailed plans about what I need to do each day, and as a result I forget important things.
77. In regards to social issues, (e.g., homelessness, environmental pollution, or AIDS),
- A. I don't think much about them.
 - B. I am concerned, but haven't taken any specific actions.
 - C. I contribute money to organizations that address the issue(s).
 - D. I am actively involved in organizations that address the issue(s).
78. I have one or more goals that I am committed to accomplishing and have been working on for over a year.
- A. No, I don't like making definite goals.
 - B. No, I have tried, but have been unable to follow through.
 - C. No, I have difficulty making realistic long-range plans.
 - D. Yes.
79. Within the past twelve months, I contributed my time to a worthy cause in my community (campus or town/city).
- A. No.
 - B. 1 – 10 hours.
 - C. 11 – 20 hours.
 - D. 21 – 30 hours.
 - E. 31 or more hours.
80. I have developed a financial plan for achieving my educational goals.
- A. No, my parent(s) are taking care of it.
 - B. Yes, I have a plan that depends on the continuation of the present level of funding.
 - C. No, I haven't thought much beyond the current term.

APPENDIX B: Letter of Informed Consent
(Emailed to participants)

February 1, 2004

Dear student,

You are invited to participate in a study I am conducting as part of my doctoral studies in the College of Education at Michigan State University. This study, entitled **Exploring the Developmental Outcomes of Service-Learning Pedagogies**, focuses on the impact of various types of service-learning on college student's growth and development. Specifically, this study is interested in exploring the developmental differences for students involved with co-curricular service-learning, the alternative spring break program, and academically-based service-learning.

If you decide to participate, you will be asked to complete an 80-question survey at the beginning and at the end of this spring semester 2004. The survey should take about 10 minutes to complete. Participation in this study is voluntary. You may choose to not participate at all, or you may refuse to participate in certain procedures or answer certain questions at any time during the study. If you choose to participate you will be entered into a drawing for one of two \$50 gift certificates to the college bookstore.

Your confidentiality will be protected throughout the study. All data obtained from you will be kept confidential and will not be viewed by anyone except my dissertation advisor and myself. The surveys will be coded so I can determine individuals that I have not received information from and for the post-test comparison of scores. Your privacy will be protected to the maximum extent allowable by law.

There are no anticipated benefits or risks to you as a participant, aside from helping the Service-learning Center understand the development impacts of their work with students.

If you have any questions about this study, please contact Josh Armstrong, 612 Hoyt St, Grand Rapids, MI 49507, 245-9154, jarmstro@calvin.edu or stop by my office anytime. If you have questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish, Peter Vasilenko, Ph.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4053, email: ucrihs@msu.edu, or regular mail: 202 Olds hall, East Lansing, MI 48824.

I voluntarily agree to participate in this study by accessing the link to this survey below.

MICHIGAN STATE
UNIVERSITY

January 9, 2004

TO: Marilyn J. AMEY
427 Erickson Hall
MSU

RE: **IRB# 03-1013** CATEGORY: EXEMPT 1-2

APPROVAL DATE: January 7, 2004
EXPIRATION DATE: December 7, 2004

**TITLE: EXPLORING THE DEVELOPMENTAL OUTCOMES OF SERVICE-LEARNING
PEDAGOGIES**

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete and I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the UCRIHS approved this project.

RENEWALS: UCRIHS approval is valid until the expiration date listed above. Projects continuing beyond this date must be renewed with the renewal form. A maximum of four such expedited renewals are possible. Investigators wishing to continue a project beyond that time need to submit a 5-year application for a complete review.

REVISIONS: UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please include a revision form with the renewal. To revise an approved protocol at any other time during the year, send your written request with an attached revision cover sheet to the UCRIHS Chair, requesting revised approval and referencing the project's IRB# and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.

PROBLEMS/CHANGES: Should either of the following arise during the course of the work, notify UCRIHS promptly: 1) problems (unexpected side effects, complaints, etc.) involving human subjects or 2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of further assistance, please contact us at (517) 355-2180 or via email: UCRIHS@msu.edu. Please note that all UCRIHS forms are located on the web: <http://www.humanresearch.msu.edu>

Sincerely,



Peter Vasilenko, Ph.D.
UCRIHS Chair

PV: jm

cc: Josh Armstrong
612 Hoyt St. SE
Grand Rapids, MI 49507



OFFICE OF
RESEARCH
ETHICS AND
STANDARDS

University Committee on
Research Involving
Human Subjects

Michigan State University
202 Olds Hall
East Lansing, MI
48824

517/355-2180
FAX: 517/432-4503

Web: www.msu.edu/user/ucrhs
E-Mail: ucrhs@msu.edu

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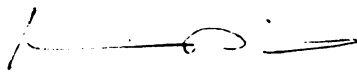
2-12-04

Josh:

The Calvin IRB has approved your research proposal "Exploring the Developmental Outcomes of Service Learning Pedagogies".

I wish you well in your investigations. .

Sincerely:



Ken Piers, Chair, Calvin IRB

*Department of Chemistry
and Biochemistry*

3201 Burton Street, S.E.

Grand Rapids, MI 49546

616-957-6200

Fax: 616-957-6501

STUDENT DEVELOPMENT ASSOCIATES, INC

PMB 800
2351 College Station Road
Athens, Georgia 30605-3664

STUDENT DEVELOPMENTAL TASK and LIFESTYLE ASSESSMENT LICENSE AGREEMENT and ORDER FORM

This document confirms that Student Development Associates, Inc. (referred to herein as the Associates) and the following institution, program, or student (please print) Josh P. Armstrong (referred to herein as the licensee), have entered into a license agreement wherein the licensee is authorized to reproduce and administer the *Student Developmental Task and Lifestyle Assessment* (SDTLA) and/or its Developmental Task and Subtask versions for research or programmatic intervention purposes. For licensees this agreement may be extended for up to thirty-six (36) months on the same financial basis. Extensions of the license agreement beyond a 36 month period must be reviewed and renegotiated. Program and student licenses are limited to the duration of the project for which the license was obtained.

This license agreement stipulates that the Institution will pay the Associates the fee specified below for access to the SDTLA for a 12 month period for the Institution's use only for the option checked below.

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Institution, program, or student. The licensee agrees to provide a copy of all research reports and raw data on computer disk to the Associates for archival and research purposes.

The special graduate student research license is provided at a discount to students of unsponsored research which receives no funding. In addition to the \$50.00 project license fee, students will pay 50¢ per SDTLA booklet copied or computer administration offered (minimum of \$25.00), to be paid as of June 1 and December 1 during the course of the project. Students must provide a joint letter from themselves and their faculty research supervisor verifying that no funding has been provided for the project. If external funding is provided, students must apply for one of the other three license options. Students who receive a student research license agree to provide to the Associates a copy of their final research report (on either disk or hardcopy).

The Associates, upon receipt of the annual license fee, will provide the licensee with a copy of the SDTLA booklet in Macintosh Adobe PageMaker computer disk format for duplication purposes; hardcopies of the various forms of the SDTLA; a scoring key; and a technical manual that describes the SDTLA, furnishes technical information, and provides application and administration advice. Administration, scoring, and other uses of the SDTLA are the responsibility of the licensee. Consultation will be provided by the Associates as time permits. The copyright for the SDTLA is held by the Associates and institutional, program, or student project license holders are not authorized to provide SDTLA materials or scoring keys to anyone beyond the scope of this license agreement.

Agreement:

The licensee agrees to the above stated criteria and will abide by the license agreement for access to the *Student Developmental Task and Lifestyle Assessment* for a period of 12 months or the duration of the research project.

Marilyn Arney, Associate Professor, Michigan State University
Name-Title of Authorizing Administrator or Faculty Research Supervisor (please type or print)

Signature & Date

Josh P. Armstrong

Name and Title of Primary Researcher (please type or print)

Josh P. Armstrong

12/8/03

Signature & Date

Name, US mail & e-mail addresses, phone & fax numbers of institutional contact person who is responsible for supervising the terms of this agreement (please type or print):

Name: Josh P. Armstrong Title: Assistant Dean of Residence Life

Institutional affiliation: Calvin College / Michigan State U. e-mail address: jarmstro@calvin.edu

Work Telephone Number: 616.526.5642 FAX Number: 616.526.6502

Mailing Address (no P. O. Box numbers) 3201 Burton St. SE, Grand Rapids, MI

49546

Student Development Associates, Inc. agrees to abide by the above stipulated agreement criteria upon receipt of the annual or project license fee.

Roger B. Winston, Jr., President, SDA, Inc.: _____ Date: _____

Please complete, sign, and return two completed copies of this agreement-order form to Student Development Associates, Inc., PMB 500, 2351 College Station Road, Athens, GA 30605-3664 with check payable to Student Development Associates and one copy signed by an authorizing Associate will be returned with your order.

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