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The Developmental Impact of a Competency-Based Liberal Arts Bachelors Degree Program on Selected Personality Constructs of Adult Learners

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THE DEVELOPMENTAL IMPACT
OF A COMPETENCY-BASED LIBERAL ARTS BACHELORS DEGREE PROGRAM
ON SELECTED PERSONALITY CONSTRUCTS
OF ADULT LEARNERS

by

Allen Vincent Lentino

A Dissertation Submitted to the Faculty of the
Graduate School of Loyola University of Chicago
in Partial Fulfillment of the Requirements for the Degree of
Doctor of Philosophy

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1990

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Finally, thanks to my brother, Joseph R. Lentino, who has served as a role model for me in pursuing my doctorate, and to my mother, Vincie J. Lentino, for her patience, support and encouragement during my entire doctoral program.

VITA

The author, Allen Vincent Lentino, is the son of the late Vincent J. Lentino and Vincie J. Lentino. He was born on October 18, 1952 in Chicago, Illinois.

His early education was completed at Queen of All Saints elementary school in Chicago, Illinois. In 1970, he graduated from Loyola Academy, a college preparatory school in Wilmette, Illinois.

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DEDICATION

In memory of my father, Vincent J. Lentino, who I am sure would have been proud and to my mother, Vincie J. Lentino, who made it all possible.

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CHAPTER I

INTRODUCTION

Educational theorists throughout the centuries have addressed the developmental changes manifest in a liberally educated person. They agree that the liberally educated individual should be more reflective, social and humane, integrative, centered, and independent in relation to oneself, one's values, and others (Heath, 1978).

Research on developmental changes which occur in students exposed to the liberal arts during college has largely, indeed almost exclusively, focused on the traditionally-aged (17 to 21 years) student. As a result, a distressing dearth of research exists on how a liberal arts degree program affects the development of the adult learner. Although adult learners may state that their primary motivation to attend college is career advancement or personal satisfaction (Cross, 1981), the enduring effects of liberal education as outlined above by Heath cannot be assumed to dissipate in their impact dependent upon the chronological age or pragmatic mind-set of the participant. Indeed, the process of maturing which envelopes traditionally-aged college students cannot be assumed to be their exclusive preserve. The developmental

effect of a liberal arts bachelor's degree program may not diminish as it pertains to the adult learner. The benefits of the collegiate liberal arts experience should be inherent regardless of the audience.

For adults enrolled in a bachelor's degree program, the liberal arts enhance the pragmatic skills and technical knowledge brought from job settings and promote an understanding of how theory can be applied to everyday situations at home, in the workplace, and in society. The liberal arts may also provide adults with opportunities to perceive intellectually their role in the world in relation to others, to have a greater appreciation of needs other than their own, to gain a better understanding of themselves, and to function confidently in today's society. The impact of the liberal arts on adult learners, despite their maturity in age, should affect the maturity of their beings and provide new insights and meaning in their lives.

The exposure of an individual to the collegiate liberal arts milieu is alternatively subtle and dynamic. Subtle in that it is marked by insight or sensitivity; and yet dynamic in that it produces an effect of energetic movement or progression (i.e. development).

In the forward to The Modern American College, Sanford (1981) states, "today it seems obvious that if people can develop at age 20, there is no reason why they

cannot develop at 30 or 50" (p. xix). Whitbourne and Weinstock (1979) further emphasize the necessity of viewing adult development as an integrative, dynamic and continuous process.

Purpose of the Study

The purpose of this study is to investigate the developmental effect of a liberal arts bachelor's degree program on adult learners enrolled at three distinct stages of an experiential, competence-based curriculum in the School for New Learning at De Paul University located in the city of Chicago.

Using Douglas Heath's (1977b) model of maturity as a conceptual framework, the developmental status of adult learners enrolled at the Discovery Workshop, Major Seminar, and Summit Seminar stages of the bachelor's degree program are assessed, compared, and analyzed to determine developmental progression.

Using the Omnibus Personality Inventory (Heist & Yonge, 1962, 1968), differences in intellectual, social and personal development among adult learners are measured:

1. from the Discovery Workshop stage to the Major Seminar stage;
2. from the Discovery Workshop stage to the Summit Seminar stage;
3. from the Major Seminar stage to the Summit Seminar stage;

4. between men and women;
5. between age classifications; and
6. between those employed in two occupation categories:
 - a) business contact and business operations
 - b) other occupations (including technical, science, arts and social service).

Research Objectives

The goal of this investigation, therefore, is to examine the following research objectives:

1. To determine if there is a significant difference in the level of intellectual, social and personal development, as measured by the Omnibus Personality Inventory between adult learners at any of three points (entering, mid-point, and completion) of a competence-based liberal arts bachelor's degree program.
2. To determine if there is a significant difference in the level of intellectual, social and personal development, as measured by the Omnibus Personality Inventory between male and female adult learners enrolled in a competence-based liberal arts bachelor's degree program.
3. To determine if there is a significant difference in the level of intellectual, social and personal development, as measured by the Omnibus Personality Inventory between adult learners, as delineated by age,

enrolled in a competence-based liberal arts bachelor's degree program.

4. To determine if there is a significant difference in the level of intellectual, social and personal development, as measured by the Omnibus Personality Inventory between adult learners, as delineated by occupation category, enrolled in a competence-based liberal arts bachelor's degree program.

Conceptual Framework

The conceptual framework of the study is based on Douglas Heath's model which examines personal and intellectual human development. The role of competence-based education in the developmental process and the relationship between maturity to competence are also explored.

Heath's Model of Maturity

Heath (1968) identified the developmental process as a conceptual scheme which includes and orders the many changes which occur as a person matures. In two major studies (1965, 1977b), Heath researched the question, "who is the mature person?" In analyzing this question, Heath determined that the "maturity construct" is a holistic concept, most likely defined by several dimensions, located within a broadly conceived developmental theory which describes the maturing process. According to Heath, the maturing person becomes more stably organized, integrated,

allocentric, and autonomous. In addition, it is more likely that the internal and external experiences of the mature person become symbolized and available to awareness. These descriptions comprise what Heath came to identify as developmental growth dimensions.

Heath's research has particular value for practitioners in the field of higher education. He sees the transforming effect of college on the lives of students as not simply a product of the institution's values, but rather as the product of the interaction of the student's values and personality structure with the values and expectations of the institution.

The model of maturation, as proposed by Heath, serves as a map which classifies the principal hypotheses which are claimed by theorists to distinguish mature from immature persons. Heath's model specifies four self-systems: intellect, values, self-concept and interpersonal relationships as well as five developmental growth dimensions (see Figure 1).

Heath's maturity model defines student development comprehensively and as such is the only developmental design to do so. When put into practice, it offers the practitioner a framework within which to consider the outcomes of an ideal educational experience. Heath sees intellectual development to be as important as social and emotional development and therefore presents a

developmental picture of the whole student. In this way, the practitioner in higher education who utilizes the model can more easily define the meaning of student development in terms which embrace all considerations.

Figure 1

Heath's Maturity Model^a

SELF-SYSTEMS	DEVELOPMENTAL GROWTH DIMENSIONS				
	Symboli- zation	Allocen- tricism	Integra- tion	Stability	Autonomy
Intellect					
Values					
Self-Concept					
Interpersonal Relationships					

^a(Heath, 1978).

Competence-Based Education

Specialization within the liberal arts has, in many collegiate settings, diminished the broad philosophical goals of traditional liberal education as interpreted, through the centuries, by theorists such as Aristotle, Thomas Aquinas, John Henry Newman, Robert Hutchins, and Mortimer Adler. What has been lost is a "theoretically unified focus for our academic pursuits" (Ewens, 1979, p. 163). The movement towards competence-based liberal education has, in part, attempted to refocus academia on

these goals through emphasis on the outcomes of liberal education rather than on dependence on disciplinary definitions of learning.

Proponents of competence-based liberal education are emphatic in their assertion that a liberally educated person needs to be concerned not only with "mere" theoretic knowledge but with enhancement of skills, attitudes and abilities that enable one to use knowledge effectively. In Brownlee's view (1974), competencies allow students to be "qualified to participate effectively in life" and are requisite to becoming "a whole person" (Ewens, 1979, pp. 174-175). Competence-based liberal education provides individuals with a capacity to change, to grow, and to develop intellectually, socially, and personally.

The examination of the relationship of maturity to competence is a major aspect of Heath's work. He views competence as the ability of an organism to adapt effectively to changing environments. He further defines "adapting" as a response that is optimally satisfying and is integrative of environmental demands and of one's organismic integrity.

The maturity model is an adaptive sequence beginning with symbolization and culminating in autonomy (see Figure 1). It therefore provides a systematic basis for the idea of a competent self. According to Heath, to further a person's competence, one should find ways to enhance

maturation. Research has shown this process to be reciprocal as well, in that increasing competence may facilitate a person's maturation (Smith, 1974).

Heath's growth dimensions are reflected in many of the outcomes outlined by competence-based liberal education programs. These include increasing one's analytical capabilities, developing problem-solving skills, developing one's facility for making value judgements and independent decisions, and developing an awareness and understanding of the world in which one lives.

Significance of the Study

As colleges and universities struggle to maintain enrollments in an extremely competitive recruitment market, adult learners continue to gain importance as members of the collegiate community. From 1972 to 1984, enrollment of adults (over 24 years of age) in college has increased by 75.5%, while traditionally-aged college enrollments (18-24 years of age) have increased by only 21.3%. In 1984, 36.2% of all students enrolled in institutions of higher learning were over the age of 24. Federal government projections for 1993 indicate that 49% of all college enrollees will be over 24 years of age (U.S. Bureau of the Census, 1985).

As such, the need for competence-based programs which take into consideration past learning, albeit not always in a formal education setting, is bound to increase. "New" groups will be given opportunities to participate in higher

education: those with lower ability, women, minorities, older learners. With declining numbers of traditionally-aged learners and with developments in technology and information services, an heretofore "untapped" market of working adults, with no postsecondary education or with some postsecondary education but no degree, will be given consideration by colleges and universities. The educational needs of a post-industrial society will be efficiently met by maximizing and credentialing learning occurring other than in the classroom (School for New Learning, 1982). Applications of theoretical models of student growth need to be utilized to assess and analyze this development. Thus, consideration of the adult learner's development is and will become even more essential to administrators and counselors in higher education.

This study provides significant new information about adult development utilizing Douglas Heath's Model of Maturity with a non-traditionally aged college population sample in a non-traditional academic program. Heath's model has been heretofore used in studies of traditionally-aged college students in traditional college academic programs. Furthermore, this research is based upon a comprehensive theoretical and holistic model of adult development as opposed to stage theory. Stage theorists are selective in focus and emphasize a particular

age range or type of growth. In comparison, Heath, by taking a broad perspective, provides a conceptual scheme which includes and orders the many changes which occur as a person matures. In doing so, his work gives objective meaning to the development of the whole person (Widick, Parker, & Kneflekamp, 1978).

A significant body of research in the field of higher education focuses on the development of the traditionally-aged college student. However, there is an appalling paucity of empirical data focusing on adult learners' development. As such, this study measures intellectual, social and personal development of adult learners in a bachelor's degree program, an area of research that to this point has been significantly lacking. Insight is provided not only on individual development, but also on the relationship of gender, age, and occupation category to the development of adult learners. In addition, a liberal arts degree program which is experiential and competence-based is the focus.

This study has broad implications as it contributes to research in four fields--adult development, adult education, non-traditional learning, and higher education. Lastly, this study provides empirical research for De Paul's School for New Learning on its student population which can be considered when making administrative and curricular revisions in the bachelor's degree program to

enhance student development.

Limitations of the Study

Certain limitations to the study are apparent.

Longitudinal data on the student population examined will not be provided. A cross-sectional design will be used. Cross-sectional designs cannot be used for measuring change in an individual, because an individual is measured only once. However, differences between defined groups in the cross-sectional study may represent changes that take place in a larger defined population (Wiersma, 1986, p. 210). Risks are also apparent in using a cross-sectional design in that apparent change could be produced by selectivity of dropout during the college years (Feldman & Newcomb, 1969, p. 52).

A select group of students in one specific bachelor's degree program will be measured. No comparison between the development of adult learners in a liberal arts bachelor's degree program and the development of traditionally-aged learners in a liberal arts bachelor's degree program will be made. The results cannot be generalized to every academic setting in which adult learners are enrolled.

The instrument selected for this study imposes limitations on the results. While the OPI has been widely used with (traditionally-aged) undergraduates, its validity when administered to other populations is unknown (Kuh, 1975, p. 100). The OPI has a forced-choice type of scale

which is known to strain the subject's endurance and patience, resulting in less cooperation (Kerlinger, 1973, p. 503). As in use of any personality measure, there is a problem with validation since the results can be misleading. Items do not always measure what one thinks they measure. Validation needs to take place by applying the scale to known groups that differ. If the scale differentiates the groups successfully, it is said to have validity (Kerlinger, 1973, p. 495). Also taken in consideration is that the instrument used is only one measure of personality administered at a specific point in time.

The size of the sample used in the study is legitimate, but can be considered small. Statistics calculated from larger samples are more accurate, other things being equal, than those calculated from small samples. Smaller samples do not give the principle of randomization a chance to work (Kerlinger, 1973, p. 128).

Organization of the Study

Chapter II reviews literature related to the study focusing on three conceptual areas of research: a.) the adult learner and adult development, b.) liberal education and student development, c.) experiential/competence-based approaches to higher education.

Chapter III presents the methodology of the study. The research population and the sampling procedures

utilized are described. Also discussed and described are the assessment instrument and demographic survey. Lastly, the data collection process is reviewed and the data analyses utilized are described.

Chapter IV presents results obtained through the administration of the assessment instrument and information gathered from the demographic survey.

Chapter V summarizes the study and discusses conclusions based on the results. The relationship of the results to the conceptual framework of the study is discussed. Recommendations for future research are also made.

CHAPTER II

REVIEW OF RELATED LITERATURE

This review categorizes the literature related to this study into three areas: the adult learner and adult development in higher education, experiential/competency-based approaches to higher education, and research on the impact of college and the developmental outcomes of liberal education. A major focus of the third area is an overview of the research conducted by Douglas Heath, whose model of development provides the conceptual base of this study.

These areas are directly related to the present study which examines a population of adult learners enrolled in a liberal arts bachelor's degree program and measures the developmental impact of that experience. The literature reviewed provides a framework within which the current study will relate and provides support for the research conducted.

The Adult Learner and Adult Development

The first literature area reviewed, the adult learner and adult development, analyzes research on characteristics of adult learners and their motivations and barriers to enrolling in higher education programs, and examines the

adult life cycle in adult developmental theory and the implications of adult development theory to participation in programs of higher education.

Motivations, Barriers, Characteristics

Adults pursue college because of their willingness to learn and to gain personal satisfaction (Eldred & Marienau, 1979; Sewall, 1984; Weathersby, 1980), particularly if they are better educated or have a higher income level (Cross, 1979); to obtain a better job and to experience economic gain (Eldred & Marienau, 1979; Sewall, 1984), particularly if they have low levels of educational attainment or low-status jobs (Cross, 1979); to seek professional advancement within their chosen field (Greenberg, O'Donnell, & Bergquist, 1980; Sewall, 1980; Weathersby, 1980); to cope with life changes (Aslanian & Brickell, 1980); to grow in personal ways and to respond to complex societal conditions (Greenberg, O'Donnell, & Bergquist, 1980); and to achieve independence and a sense of identity (Sewall, 1984).

Aslanian and Brickell's (1980) study of 2000 adult learners reveals that as adults experience transitions in their lives due to the confluence of technological, social, economic, and political developments in society, traditional life patterns are changed which trigger action to learn coping skills for the life change. Cross' (1979) research supports this finding as her analysis of more than

30 large-scale surveys on the preferences and characteristics of adult learners reveals that social climate may be a significant factor in one's interest in continued learning. However, Weathersby (1977) found that the reasons adults enroll in the "same" program changed with the individual student's stage in the life cycle. Her studies concluded that learning is an ego threatening activity. Before enrolling in a program of study, students at different stages of development will, most likely, look to different sources of support and challenge, including the degree of structure in the setting, the amount of diversity to be coped with (or welcomed), the extent of opportunity for experiential learning, and the degree of personalization in the setting.

Regardless of the reasons or motivations to enroll, adult learners are confronted with barriers to enrolling in college. Sewall (1980) found family responsibilities to be the most significant barrier cited by adults. This finding has been supported by Eldred and Marienau (1979), while other studies cite inadequate finances and time as the most frequent barriers (Johnstone & Rivera, 1965; Tough, 1971, 1978; Carp, 1974). Conflicting evidence is cited by Cross (1979) who found barriers to be suspect due to the tendency of respondents to give socially acceptable reasons for not participating in learning activities and because lack of information prevents adults from knowing what barriers

exist.

Any general understanding of adults as learners must include an analysis of the characteristics which contribute to individual differences among learners (Sheckley, 1985). Given identified characteristics (e.g. multiple life roles, time constraints), Sheckley (1985), developed a chart adapted from Knelfelkamp and Stewart (1983), contrasting the general needs of the adult learner with the usual assumptions of the higher education learning environment. He delineated many of the changes required for higher education to accommodate the multiple needs and the heterogeneous nature of the adult learner. Sheckley implies that responsive curricula and instructional processes are necessary to augment the usual approaches employed by higher education to serve the adult learner. He offers higher education practitioners a blueprint for having an increased awareness that all learners cannot be served with a singular homogeneous process, and that the development of adult learners can be heightened through program and policy changes reflecting individual differences.

Knox (1977) supports this notion through research which emphasizes the relationship between adult development and learning. He describes how practitioners who work with adults might best utilize a knowledge of this relationship through better understanding of a) the holistic or

comprehensive character and coherence of an individual's adult life, b) the interrelationships among successive phases of the adult life cycle, and c) the developmental processes that typically occur during the months or years in which adults make transitions from one role or pattern of activity to another.

Schlossberg (1978), drawing on research and theories of adult development, outlined crucial issues confronting student affairs professionals in higher education as they serve the growing population of adult learners. In doing so, she focused on important aspects of adult learner characteristics which also relate to the issue of individual differences discussed by Sheckley (1985).

Drawing from Neugarten (1977), Schlossberg states that behavior in adulthood is determined by social rather than biological clocks. Additional research reflecting this viewpoint found that behavior is at times a function of life stage, at others of age (Levinson, 1978; Lowenthal, Turner & Chiriboga, 1975). This issue alerts student affairs professionals to see past a person's chronological age and not to stereotype adult learners based on age when providing services relevant to their needs as students. Additionally, sex differences are greater than either age or stage differences. Research has indicated that women grow more achievement oriented and aggressive as they grow older, whereas men become more affiliative and more in need

of personal relationships to sustain them (Lipman-Blumen & Leavitt, 1977).

Adults continually experience transitions requiring adaptations and reassessments of the self (Levinson, 1978). As such, counselors can help by being aware of three variables in successful adaptation to change: the transition itself, the available pre- and post-transition support systems, and the adult learner's personal coping abilities.

The recurrent themes of adulthood are identity, intimacy and generativity. Identity may become an issue when a person faces a major transition. Generativity is closely related to identity in that as one reassesses and seeks new definitions of the self, other questions arise concerning the meaning of life and contributions made to society. Intimacy plays an important role in the lives of individuals, particularly in their ability to adapt to transitions successfully (Erikson, 1950). Each of these issues should sensitize counselors, advisors and others in the college environment to adult development and the facilitation and progression of adults in that environment (Schlossberg, 1978).

Studies of Adult Development

The literature on adult development can be generally divided into two basic groups: 1.) characteristic issues and tasks of chronological periods of the adult life-cycle

and 2.) developmental stages not strictly related to age but representing individual movement towards maturation (Weathersby & Tarule, 1980). Lasker and Moore (1980) distinguish between these two perspectives as the phasic approach, which describes aspects of development that occur during relatively fixed periods of adult life, and the stage approach, which focuses on developments in adulthood that are not well correlated with age.

In the phasic approach, phases of adult life include chronological periods experienced by everyone, with adult development involving adaptation to changing conditions. Theorists espousing the phasic approach include Jung (1964), Havighurst (1973), Erikson (1950), Gould (1972, 1978), and Levinson (1978).

The phasic approach to adult development has implications for education in that it helps to demonstrate how aging changes the governing mentality of learners. Educational research on each developmental period could be helpful in providing a fuller description of common hopes, dreams, expectations, and anxieties of adult learners and, in turn, in helping educators speak to the central concerns of their students. In addition to providing learners with an opportunity to complete a transition already in process, education might actually play a part in initiating the transformation of life structures (Lasker & Moore, 1980). The dynamic interaction between individual and a change

event heightens the potential, increases the susceptibility to influences and provides the impetus and opportunity for growth (Knox, 1977). This concept has already been suggested by Weathersby (1977) and Tarule (1980).

As one of the foremost proponents of the phasic approach, Levinson's (1978) comprehensive study on the adult life cycle was a major contribution to the literature of adult development. His research provides a developmental perspective on adulthood in men and does so in a systematic fashion, using empirical data to look at each of the major "seasons" of adulthood, covering an age-span from late-teens to late-adulthood. In using a multidisciplinary approach, his work not only looks at the evolving course of life in psychological terms but also draws upon other social sciences and humanities. Levinson's view of man places the individual in society; examining his interrelationship with the environment.

Levinson presented a conception of the life cycle as a whole and details the period of development in early and middle adulthood. His terminology is that of "eras" as opposed to "stages". His first "era", pre-adulthood, includes childhood, adolescence and the early adult transition. Significant developmental characteristics of this era include evolving into a separate person from one's parents, expanding one's social world beyond the family, resolving familial-emotional struggles and becoming more

disciplined, industrious and skilled, progressing toward sexual maturity, and establishing initial membership in the adult world (pp. 20-21).

Early adulthood is the second era of the life span. It begins at age 17 or 18 and continues until about age 45. In the earliest period of this era, mental and bodily characteristics are at or near their peak level. As an individual proceeds through the era, his instinctual drives are at their height and he struggles to establish his place in society. In the process, he experiences both satisfaction and stress in this effort. Levinson sees the 20s as a period in which a young man forms a preliminary adult identity by making choices regarding personal relationships, career, lifestyle, and residence. The basic sequence of change within this era is that of "novice adult" to assumption of a more "senior" position in work, family and community (pp. 21-23).

At around age 40, according to Levinson, a crucial developmental change occurs. This transition leads into the third era, middle adulthood. Since no single biological or psychological indicator is available to make the transition easily apparent, Levinson examined lives as they evolved through a biographical approach in order to document the diversity of experience to this transition. He examined this era from three contrasting perspectives: a) changes in biological and psychological functioning, b)

the sequence of generations, and c) the evolution of careers and enterprises (pp. 23-25).

To complete his theory, Levinson writes of two final eras: late adulthood which begins at age 60 and late, late adulthood, beginning at age 85, which is experienced by such a small percentage of the population that measurement of developmental change is nearly impossible. Late adulthood brings on rapid physical decline and reduction of responsibilities. Tasks include sustaining one's youthfulness in a new form appropriate to late adulthood, finding a balance of involvement with society and with self, and gaining a sense of appraisal of one's life. As Levinson states, once man has found meaning and value in his life, he can come to terms with death.

The stage approach focuses on stages of adult life which identify levels of maturity that are relatively independent of the chronological period in which they are found. Thus stage theories come from insight that the same conditions are experienced in different ways (Lasker & Moore, 1980). Conceptually, few developmental changes are seen as occurring as a result of time. A process of qualitative change is involved in development implying both choice and necessity in interaction with life circumstances (Weatherby & Tarule, 1980). Theorists espousing the stage approach include Loevinger (1976), Perry (1968), and Kohlberg (1972).

Studying four different groups defined not by age but by stage, Lowenthal, Turner, and Chiriboga (1975) concluded that chronological age is generally less significant than life stage. Attention should be given to the fact that many adults use formal education as a support in life transitions and find different uses for education depending on their life stage (Weathersby & Tarule, 1980). Whitbourne and Weinstock (1979) state that the term adult must be defined according to a combination of criteria such as age, completion of developmental tasks, and the achievement of a certain degree of maturity. Concepts based upon processes of development, as opposed to models based on age-linked stages through which all adults pass, form the only suitable means of capturing the variety and individuality that characterize the adult years.

The developmental stage theories present two implications for education. The first concerns matching instruction and curriculum to the different types of learner mentality. In this view, matching instruction to the learner's stage of development facilitates learning because material is presented in a form that is most consistent with the student's system of thinking and is thus easier to incorporate (Lasker & Moore, 1980).

The second implication focuses on development as the major aim of education. Pushing adult learners in higher education to the next stage changes the way in which all

previous knowledge is actively put to use and brought to bear in making meaning (Lasker & Moore, 1980). The adult's prior relevant experiences are a major reference point for judging and handling new experiences (Knox, 1977).

The theoretical bases provided by Loevinger (1976), Lasker and deWindt (1976), and Perry (1970) show that developmental stage theories provide increasingly complex and differentiated ways to understand adults who are found in educational settings. Loevinger (1976) conceptualized her findings in terms of progressive stages of personality development. Her theory of "ego development" emphasizes a person's central ways of making sense of his/her world, that is, the overall mental process through which a person creates and maintains a frame of reference for understanding events and for acting in the world (Lasker & Moore, 1980).

Adult students exhibit a wide range of ego levels and are shown to be diverse in motivation and cognitive style and in conceptions of knowledge, locus of responsibility, affective style, and coping skills. Therefore, the importance of applying adult development theory to educational settings is stressed in order to foster an environment in which individuals can cope with a world of uncertainty, rapid change and global interrelationships, which in terms of developmental levels means people at higher stages (Weathersby & Tarule, 1980).

Werner (1948) postulates that two critical processes, differentiation and integration, underlie developmental change over the life span of every individual. Erikson (1963) has proposed that throughout life all individuals must confront certain critical issues as major life events are faced. The basic issue that underlies the others is that of defining and redefining one's personal identity. Differentiation and integration can be seen as operating on the continuous refinement of the adult's identity (Whitbourne & Weinstock, 1979).

Adult identity is the integration of the physical characteristics, abilities, motives, goals, attitudes, values, and social roles that are attributed by the individual to his or her self. Identity organizes the adult's interpretation of experiences and is in turn further modified by experiences. As the person is exposed to adult life events, interacts with others, and engages in a variety of social roles, his or her identity becomes further differentiated and new forms of integration may emerge (Whitbourne & Weinstock, 1979).

Summary

Adult learners report that they pursue college for personal fulfillment (Eldred & Marienau, 1979; Sewall, 1984; Weathersby, 1980); for career change or job advancement (Eldred & Marienau, 1979; Greenberg, O'Donnell, & Bergquist, 1980); Sewall, 1984; Weathersby, 1980); and

for personal development (Aslanian & Brickell, 1980; Greenberg, O'Connell, & Bergquist, 1980; Sewall, 1984). Weathersby (1980) found the life cycle to be an important factor in the adult's decision to enroll. The most frequently mentioned barriers to enrolling are family relationships (Eldred & Marienau, 1979; Sewall, 1984), finances and time (Carp, 1974; Johnstone & Rivera, 1965; Tough, 1971, 1978). Consideration must be given to individual differences among adult learners (Knox, 1977; Schlossberg, 1978; Sheckley, 1985), the phases of the life cycle, and the developmental processes which occur at each transition in the life cycle (Knox, 1977; Levinson, 1978; Schlossberg, 1978). Two perspectives of adult development: (a) the phasic approach, which describes development as occurring during fixed periods of adult life and (b) the stage approach which focuses on development not correlated to age are described (Lasker & Moore, 1980; Weathersby & Tarule, 1980). Theorists espousing the phasic approach include Erikson (1950), Gould (1972, 1978), Havighurst (1973), and Levinson (1978). Theorists espousing the stage approach include Kohlberg (1972), Loevinger (1970), and Perry (1968). Educational implications are apparent in both approaches. In the phasic approach, implications include how aging changes the governing mentality of learners and in the stage approach, matching instruction and curriculum to different learner types and focusing on

development as a major aim of education (Lasker & Moore, 1980). The life cycle provides a frame of reference for understanding the developmental issues confronting the adult learner in higher education (Erikson, 1950; Knox, 1977; Lasker & Moore, 1980; Loevinger, 1978; Weathersby & Tarule, 1980; Werner, 1948; Whitbourne and Weinstock, 1979).

Experiential/Competence-Based Approaches to Higher Education

The second area of the literature review, experiential/competence-based approaches to higher education as they relate to liberal education, focuses on (a) definitions of experiential learning and competence, (b) benefits to adult learners of experiential/competence-based approaches to higher education, (c) a theoretical model of experiential learning, (d) developmental outcomes derived from implementation of experiential/competence-based approaches in higher education and (e) the linkages between experiential/competency-based programs and liberal education.

Experiential Learning

Experiential learning is defined by Chickering (1976) as "the learning that occurs when change in judgments, feelings, knowledge, or skills result for a particular reason from living through an event or events" (p. 63). Levine (1978) defines it as learning acquired outside the

college classroom, which can occur before or during college enrollment, through noncollege courses, work, self-teaching, travel, or other life activities.

Experiential learning refers to learning in which the learner is directly in touch with the realities being studied (Keeton & Tate, 1978).

Information provided by Levine (1978) reveals that only a minority of colleges offer credit for experiential learning, with only 17% of four-year arts and sciences colleges offering such credit. Experiential education provides highly-motivated students with real world exposure and hands-on experience absent in most college educations (Levine, 1978). Coleman (1976) found that experiential education improved student recall of learning and increased confidence and self-assurance.

A theoretical model of experiential learning was developed by Kolb (1974), based on work of Dewey (1938), who attempted to bring some understanding to the growing conflict between traditional education and progressive approaches. He challenged educators to cope with change and the concept of life-long learning (Kolb, 1982).

Kolb's model is conceived as a cycle, in which the effective learner needs four kinds of abilities: 1) concrete experience abilities (the ability to involve oneself freely, openly, and without bias in new experiences), 2) reflective observation abilities (the

ability to select and observe these experiences from many perspectives), 3) abstract conceptualization abilities (the ability to create concepts that integrate his observations into logically sound theories), and 4) active experimentation abilities (the ability to use these theories to make decisions and solve problems) (p. 81).

Immediate, concrete experience is the basis for observation and reflection. These observations are assimilated into a theory from which new implications for action can be deduced. These implications or hypotheses then serve as guides in acting to create new experiences.

Kolb's research suggests that there is a need for a more holistic approach to defining learning outcomes and is aimed at identifying different kinds of learning styles a) to better understand the different ways that people learn and solve problems, b) to make individuals aware of the consequences of their own learning style and of the alternative learning modes available to them, and c) to improve the design of learning experiences by taking learning style differences into account.

Each of the four learning styles are related to adaptive competencies. Affective competencies (e.g. sensitivity to values, personal involvement, dealing with people) are directly related to Concrete Experience. Reflective Observation requires perceptual competencies (e.g. gathering and organizing information, listening with

an open mind, developing comprehensive plans). Symbolic competencies (e.g. testing theories, analyzing quantitative data, designing experiences) relate to Abstract Conceptualization. Active Experimentation calls for behavioral competencies (e.g. making decisions, setting goals, influencing and leading others). The four-stage learning model reveals that learning requires abilities that are polar opposites. This sets up two major dialectics in the learning process, the tension between abstract detachment and concrete involvement; and that between actively testing the implications of one's hypotheses and reflectively interpreting data already collected.

As experiential education is a relatively new phenomenon in higher education, only a small body of research supports the conceptual consistency that exists between experiential education and the goals of liberal education.

Stephenson and Sexton (1975) found that experiential education can provide the interaction of humanistic reflection and active involvement which gives the student a sensitivity and understanding for the human condition. A study conducted by Sexton and Ungerer (1975) provided evidence that as a liberal arts education style, experiential education is seen as non-static, utilitarian, and producing autonomy. Similarly, Borzak and Hursh (1977) revealed that experiential learning can provide

a vehicle for affective and cognitive growth in individuals and that traditional liberal arts goals of objective thinking, integration of diverse materials and ideas, and effective problem solving were possible outcomes achieved through successful field study experiences. Additional studies have indicated that growth in identity was a valued and central outcome of students enrolled in two Northwestern University field study programs (Hursh & Borzak, 1979) and that students enrolled in more structured experiential education programs tended to show more confidence in their abilities to perform after college (Pedro, 1982).

According to Sexton (1977), the seemingly irreversible dehumanization of a technological society and the onslaught of social and economic forces challenges the basic philosophical contentions of liberal arts education and proposes that experiential education can play a particularly important role in expanding the potential and enhancing the effectiveness of liberal arts education. Using Kolb's theory, he conceptualizes a scheme that is particularly applicable to meeting the needs of adult learners. Theoretical concepts learned from studying the liberal arts are often too abstract for clear understanding. Abstraction is viewed as a reason to explore the experience, and when the idea and the experience are thus observed, they both have meaning.

Theory when merged with an experience should be remembered and become more useful in the future. Thus, the interrelationship of experiential education with liberal arts education expands the potential of skills, concepts and perspectives.

Similarly, Valley's (1976) findings indicate that the educational needs and aspirations of students older than conventional college age of 18-22 should be seen as a central concern of nontraditional approaches to higher education. He proposes that as liberal education contributes and enhances the value development of individuals, that experiential education be perceived as having a similar role.

Chickering's (1976) examination of the effect aging and the life cycle have on educational content and process focused on the work of several developmental theorists including Levinson (1978), Gould (1972), Sheehy (1976), Neugarten (1963, 1971), Erikson (1950, 1959), Kohlberg and Mayer (1972), White (1966), Loevinger and Wessler (1970), and Perry (1970). As a result of his analysis, he proposes that intellectual and personal growth can be a major outcome of an experientially-based curriculum and that colleges and universities must be responsive to the major dimensions of adult development and to the ages and stages of the student served. Additional research has shown that adult learning interests are imbedded in their personal

histories, in their visions of who they are in the world, and in what they can do and want to do (Weathersby, 1978). Adult learners demand that the relevance and application of ideas be demonstrated and tested against their own accumulated experience and wisdom. For these adults, learning methods that combine work and study, theory and practice, provide a more familiar and therefore more productive arena for learning (Kolb, 1982).

Competence-based Education

Klemp (1979) defines competence as "a generic knowledge, skill, trait, self-schema or motive of a person that is causally related to effective behavior referenced to external performance criteria" (p. 42). Levine (1978) outlines three features that all competence-based curricula have in common: a) they make explicit statements about the outcomes students must achieve in order to complete the program; b) they employ learning experiences specifically designed to foster these desired outcomes, and the outcomes can be achieved in a number of different ways, including courses, independent study, or experiential education; and c) they utilize multiple procedures for assessing student attainment of these outcomes (p. 231).

Data indicate that about 8% of the four-year arts and sciences colleges offer competence-based instruction (Levine, 1978). Competence-based education places responsibility in the hands of the students by permitting

each student to progress at his/her own pace and allowing each to choose the method of learning to which he/she is best suited. In addition, it treats equivalent learning from different sources equally and bases the award of credit on attainment, not exposure, while it focuses on where a student must end up (Levine, 1978).

Research conducted at Alverno College, a liberal arts college for women in Milwaukee, Wisconsin, was described by Mentkowski and Doherty (1984). The purpose of the research was to determine if a competence-based curriculum promotes broad personal and intellectual development. Data were obtained from 990 participants in three different groups: students, alumnae, and working professionals who were not Alverno students. Three independent approaches were used to examine student outcomes and student data were created by tracking the development of all 750 students in two classes through graduation. A longitudinal sample was formed using 200 of those in the above groups. Using 16 research instruments and 400 longitudinal interviews with 80 students, they were able to measure ability development by students in two classes.

Among their findings were the following: a) students came to value liberal learning, b) students changed on measures of personal growth, c) changes included broad generic abilities, d) student learning styles changed dramatically, e) students developed moral sophistication,

and f) both older and younger students changed their way of thinking.

Significant is the repeated pattern of change from skepticism to assertions of value for liberal education. While students at Alverno came to college seeking job and career security, liberal learning values became attached to these earlier values. Previous studies of college outcomes have also shown that college as a whole impacts on student development (Astin, 1977; Feldman & Newcomb, 1969; Pace, 1979). The Alverno study demonstrated that change can be linked to a particular curriculum.

The relationship of the liberal arts to competence-based programs was demonstrated in additional research studies. An analysis of a competence-based curriculum in the liberal arts was conducted by Knott (1975) who sees liberal education as a process that develops specific human abilities rather than as a set of studies with inherent liberal qualities. Benoist and Gibbons (1980) advance the idea that the competence movement promises to strengthen the liberal arts tradition in higher education. They propose that students completing a competence-based program of general studies could be even more liberalized than their traditional counterparts because they were freed from the tedium of re-studying what they had already mastered and were required to emphasize in their study those components of the general education

program for which they were least prepared. Ewens (1979) found that the proponents of competency-based reforms can draw from the liberal arts tradition and reposition the elements of liberal education by giving primacy to a practical orientation instead of a theoretical one without completely eliminating the role theoretic knowledge plays in the general education of individuals as whole persons.

Knott perceives the major consequence of an effective liberal education as the development of the power to frame purposes and to execute or carry into effect purposes so framed. In describing competence-based learning, Knott emphasized that the goals of a competence-based curriculum are not different from those of other curricula, but rather differ in the assumption that the basic desired outcomes of an educational process can be stated in terms of defined and recognizable competences by which all students can be held responsible. Mastery learning, not time, is the major criterion of performance.

Knott offers a competence-based liberal education model with a curriculum design which has at least four integral components: a) an analytical epistemology of the patterns of human meaning, b) a special area of advanced expertise, c) a developmental scheme, and d) a list of institutional values. He concludes that when such behaviors are specified and appropriate assessment procedures emphasizing their integration are designed, the

goals of liberal education will have been formulated in terms of assessable competence at a specified level of maturity.

Summary

Experiential learning occurs when changes in judgments, feelings, knowledge or skills result due to life events (Chickering, 1976). Experiential learning is acquired outside of formal educational settings (Levine, 1978) and requires personal involvement (Keeton & Tate, 1978; Levine, 1978). Kolb (1974) provides a theoretical model of experiential learning, conceived as a cycle, which describes four kinds of abilities needed by the learner: a) concrete experience abilities, b) reflective observation abilities, c) abstract conceptualization abilities, and d) active experimentation abilities. These abilities, in turn, relate to four learning styles and each learning style relates to adaptive competencies. Experiential learning provides interaction of human reflection and active involvement (Stephenson & Sexton, 1975); it is non-static, utilitarian, and produces autonomy (Sexton & Ungerer, 1975); provides a vehicle for growth related to the traditional goals of liberal education (Borzak & Hurst, 1977); and can result in growth in identity (Hurst & Borzak, 1979; Pedro, 1982) and in other intellectual and personal dimensions (Chickering, 1976; Kolb, 1982; Sexton, 1976; Valley, 1976; Weathersby, 1978).

Competence-based programs describe measurable outcomes of generic knowledge, skills and traits (Klemp, 1979; Levine, 1978). Research demonstrates that personal and intellectual development can be promoted in a competence-based curriculum (Mentkowski & Doherty, 1984). A practical framework, drawing upon the liberal arts tradition and adaptable to the needs of the adult learner, can be developed without eliminating the role theoretic knowledge plays in the development of the whole person (Benoist & Gibbons, 1980; Ewens, 1979; Knott, 1977).

Student Development and Liberal Education

The focus of the third literature base for this study is research dealing with the relationship between the development of college students and liberal arts education, with a special emphasis on research conducted by Douglas Heath.

A significant body of research has found that the undergraduate experience does have a profound impact on the psychosocial development of students. Bowen (1977) found that college education helps students a great deal in finding their personal identity and in making lifetime choices congruent with identity. This concept relates well with research previously reviewed in regard to adult development (Erikson, 1950, 1963; Werner, 1948; Whitbourne & Weinstock, 1979). In support of Bowen's conclusion, Marienau and Chickering's (1982) study found that a

progression of movement toward self-directedness and self-evaluation is shown by individuals involved in higher education as they assume increasing responsibility for creating significant meaning out of their education and life experiences.

In reviewing literature pertaining to college impact, the focus here will be on developmental outcomes of liberal arts education within higher education. The research resoundingly rejects the notion that liberal education is just a common "core" of disciplinary areas of study. The liberal education contributions of any particular experience are much more related to the kind of learning involved and the nature of the educational objectives sought than to the specific discipline, content or subject matter. Liberally educated people are recognized as such by the ways in which they think and act and by the values upon which their thinking and acting are based (Dressel, 1979). A broad and flexible concept of the liberal arts is needed which must not become overly concerned with structures, curriculum packages and traditional definitions. The strength of the liberal arts derives in large measure from their versatility and adaptability in the face of change. The purpose of education in the liberal arts is to give individuals power to liberate themselves from ignorance of things, people and ideas (McDaniel, 1976).

An essential element in Heath's work (1978) is his emphasis on liberal education as the mode through which the college student experiences intellectual and psychological growth. Heath's (1980) research has demonstrated that the historic goals of a liberal education identify the adaptive skills and values necessary to be an effective adult. Such goals can be mapped into a comprehensive scheme of maturing. Psychological maturity has been found to be the most powerful predictor of subsequent adult effectiveness and liberal educational philosophers have identified attributes of maturity as the principal outcomes of a liberal education. Each of the five dimensions in Heath's model (symbolization, allocentrism, integration, stabilization, and autonomy) provides insights to the importance of the liberal arts and the production of values which are consistent with the development of persons as humanists rather than as technicians.

In dimension one, by increasing the potential to symbolize one's experience, the individual enhances his/her imagination, is more able to articulate values and motives, and can understand himself or herself more accurately. Dewey (1933) conceptualized this as the ability to reflect and to foresee consequences. Growth is demonstrated in dimension two by becoming more allocentric. This dimension supports the notion that education should humanize. Similarly, Hutchins (1943) spoke of greater social

consciousness and social conscience.

The third dimension, integration, proposes that one becomes more relational, deductive, and completely flexible. It also suggests an atmosphere which encourages emotional spontaneity and the creation of reciprocally mutual cooperative relationships with other persons. In like form, Meikeljohn (1920) spoke of understanding human endeavors in their relation to one another and Bruner (1963) conceptualized discovering combinations of ideas.

Increasing stabilization is the major aspect of the fourth dimension. Mature persons have the ability to develop more stably organized cognitive processes. This supports Cardinal Newman's (1852) concept of developing a steadiness of intellect and Dewey's (1934) theory of developing an intellect with its own principles of order and clarity.

Dimension five, autonomy, is associated with the increasing ability to respond selectively and deliberately to the pressures emanating from the environment. It is also concerned with the ability to transfer or generalize learning from one situation to another. Similarly, Van Doren (1943) spoke of freedom to use one's own intellect and Gardner (1961) of a capacity to weigh evidence compassionately. All of the above attributes, as outlined by Heath, have direct relationship to the aims of a liberal education.

Heath's (1968) model of a maturing person includes the principal goals of a liberal education as cited by educators and philosophers. He states, "to become a more mature person is to grow intellectually and to form guiding values, to become knowledgeable about oneself, and to develop social, interpersonal skills" (p. 4). Among the most important of these skills, according to Heath, are judgment, analytic and synthetic thinking, logical reasoning and imaginativeness. Further, he points out that liberal education promotes essential attitudes such as intellectual honesty, integrity, tolerance, and objectivity. Heath suggests the goals of liberal education can be clarified for educators using a model of development in terms of the five underlying interdependent dimensions that have been found to define maturing persons not only through adolescence, young adulthood, and adulthood, but also persons of various cultures (Heath, 1965, 1968, 1977b).

Heath conducted a two-stage research program designed to study the development of three randomly selected groups of students at different points in their college career and to identify the determinants of that development. A basic test battery was administered to each person during the first week of college and readministered at the end of either the students' freshman or senior year.

Three generalizations emerged from the data: (a)

seniors appear more mature than freshmen, and more mature than they were as freshmen; (b) seniors report they matured more in college than the freshmen judged themselves to mature; and (c) the rate of maturing varies in different sectors of the personality, but the pattern conforms to the model of maturing. In summarizing the results of his research, Heath stated, "the test of becoming liberally educated is the maturity of the individual, not just the attainment of more reflective, allocentric, or integrative intellectual skills and values" (p. 261).

Other researchers have arrived at conclusions which support Heath's findings. Dressel (1979) suggests the liberally educated individual continually seeks coherence and unity in accumulating knowledge and experience and uses the insights thus achieved to further his or her development. Berg (1983) states that one of the most important goals of liberal education is facilitating the development of more mature processes. Furthermore, the criteria of effectiveness in a liberal arts mission perhaps can best be measured in terms of the institution's success in implementing a holistic concept of human growth and development. Keniston (1980), drawing upon the work of Erikson and the psychosocial stage, found the collegiate experience to be so distinct that it creates a new psychosocial task and the potential for growth.

In his analysis of how studies of maturity assist in

creating a more powerfully liberally educating college, Heath (1973, 1977) provided these insights: a) college faculties need to address their attention to reasserting and witnessing the historic purpose of a liberal arts education, namely the development of character as well as intellect, b) institutions need to have explicitly clear visions of the values for which they stand and must find ways to consistently implement those values, c) a valid model of maturing that comprehends the traditional goals of educational philosophers and predicts future adaptability must be implemented, d) a quality environment which promotes social community forms of growth must be created, and e) an atmosphere that is as deeply general, holistic and contextual in its approach to education as it is disciplinary oriented must be provided.

Heath's research has been validated by studies of students at other colleges, including Sanford's (1966) study of Vassar women who became more stable and autonomous in their identities, freed in their personal relationships, and developed deeper and more complex interests and humanized values. Murphy and Raushenbush (1960) found that Sarah Lawrence women became more aware of themselves and others, more stable and confident, and developed new interests and more articulate ways of communicating to others. At Michigan State University, Lehman and Dressel (1962) report student growth identified by greater

autonomy, increased integration and stability. Students at the University of Rochester showed a clear pattern of increasing maturity over four years (Constantinople, 1969).

Additional studies have found that the enduring effects of a liberal education have profound impact on individuals after college (Kuh, 1975, 1976). College-educated people are more open-minded toward new ideas, more curious, more adventurous in confronting new questions and problems, and more open to experience. The liberation of the personality is the most distinctive and important outcome of college (Bowen, 1977). Winter, McClelland, and Stewart (1981) measured liberal arts competencies gained in college such as analytic skill, independence, leadership, and emotional maturity and, when relating them to later life, found that they affected family life, careers, participation in organizations, personal feelings and self-image. The undergraduate experience has continuing effects on individual's lives, much more than graduate and professional school. The effect is not just on their intellect but also on their character and the way they live (Heath, 1968).

Summary

College does impact on student development (Bowen, 1977; Chickering, 1982). Liberal education contributes to the psychosocial development of students in higher

education (Dressel, 1979; McDaniel, 1976). College students experience intellectual and psychological growth through liberal education (Heath, 1978). The goals of the liberal arts identify skills and values that can be described in a comprehensive model of maturing (Heath, 1980) which has five dimensions: (a) symbolization, (b) allocentrism, (c) integration, (d) stabilization and (e) autonomy. Each dimension measures growth along four self systems: (a) intellect, (b) values, (c) self-concept, and (d) interpersonal relationships (Heath, 1968). The model includes the principal goals of liberal education as cited by educators and philosophers (Heath, 1977a). Heath's research demonstrates that liberal education is related to attaining maturity not just skills (Heath, 1968). Other researchers support Heath's findings (Berg, 1983; Constantinople, 1969; Dressel, 1979; Keniston, 1971; Lehman & Dressel, 1962; Murphy & Raushenberg, 1960; and Sanford, 1966). Finally, studies have also found that the liberal arts do have an enduring effect on individuals after college (Bowen, 1977; Kuh, 1975, 1976; Winter, McClellan & Stewart, 1981).

Summary of Literature Review

This investigation has thoroughly reviewed the literature in three areas: the adult learner and adult development, experiential/competence-based approaches to higher education as they relate to liberal education, and

student development and liberal education, with a major focus on the research of Douglas Heath.

The first area examined motivations and barriers for adults enrolling in higher education programs as well as adult learner characteristics. The adult life cycle within developmental theory and implications for education were reviewed.

The focus of the second literature area was on models and outcomes of experiential learning as well as the linkages between experiential/competence-based programs and liberal education.

The developmental effects of liberal arts education on college-age learners, the model of maturity designed by Douglas Heath, and Heath's analysis of concepts of student development used in creating a liberally educating climate in higher education were described.

While adult developmental theorists have focused on changes that occur from one stage to another, the impact of college on adult development has not been given significant attention. Research in the area of the adult learner has largely ignored the impact of liberal education on personality development. In the relatively new area of experiential/competence-based study, theories have been offered to describe how such an approach can result in growth, both intellectually and socially, when applied to an adult population. Yet, little evidence of any

substantial empirical research in this area is available. As a comprehensive model on development across the life span, Heath's research suggests that the model is applicable to an adult student population.

In conclusion, it appears evident from this review of the literature that the present study draws and expands on significant research findings but stands apart as it looks at the developmental impact of a liberal arts competence-based bachelor degree program on adult learners.

CHAPTER III

METHODOLOGY

The major purpose of this study is to analyze the development of adult learners on selected personality constructs as they progress through a competency-based, liberal arts bachelor's degree program. The study focused on a cross-section of students enrolled at three distinct steps of a non-traditional degree program specifically designed for adults over the age of 24. In addition, the study examines whether development along the selected constructs differs by sex, age, previously-earned college credits or occupation category of the participant.

Description of the Population

The population for this study consists of adults registered in a pre-admission seminar and those accepted as degree candidates in the School for New Learning, an academic division of De Paul University, located in Chicago, Illinois. More specifically, the final usable sample includes 210 students enrolled in three degree steps: the Discovery Workshop, the Major Seminar, and the Summit Seminar between June, 1986 and April, 1987. Students' names were provided by the Dean of the School for New Learning who endorsed this study. A description of the

school appears in Appendix A.

Description of the Instrument

The psychometric instrument used in this study is the Omnibus Personality Inventory (OPI) Form F (Heist & Yonge, 1962, 1968). The OPI is a wide-ranging personality measure which assesses attitudes, values, and interests of individuals in order to derive information about their personality traits. It includes over 385 items designed to provide a basis of measuring change over one or more years in a number of intellectual and non-intellectual characteristics and to assess differences in areas of normal ego-functioning and intellectual activity. The dimensions included in the inventory were chosen either for their particular relevance to academic activity or for their general importance in understanding and differentiating among students in an educational context (Heist & Yonge, 1962, 1968). Each item belongs to one or more of the 14 scales: thinking introversion, theoretical orientation, estheticism, complexity, autonomy, religious orientation, social extraversion, impulse expression, personal integration, anxiety level, altruism, practical outlook, masculinity-femininity, and response bias.

A number of studies measuring college students' personality development have used the OPI (Chickering & McCormick, 1973; Clark, Heist, McConnell, Trow & Yonge, 1972; Cohen & Brawer, 1970; Elton, 1969; Elton & Rose,

1968; Kasworm, 1982; Korn, 1968; Kuh, 1975; Kuh, 1976; Kuh & Ardaiole, 1979; Tillery, 1971). In addition, administration of the instrument is easy, requiring only one 45-minute session for each group, and it can be hand-scored. This study focuses on six of the 14 OPI scales: Thinking Introversion (TI), Theoretical Orientation (TO), Estheticism (Es), Complexity (Co), Autonomy (Au), and Altruism (Am) which are designed to measure the intellectual, social and personal development of students in college.

The Instrument is scored using scoring keys for each of the selected scales. Specific items in the instrument may relate to one or more scales. The scoring keys are placed individually over each answer sheet to determine whether or not the subject's answer correlates to a specific scale. The number of answers that do correlate with a scale are then counted and plotted on a graph which converts the raw score to a standard score.

The measures gained by the six selected scales are most closely identified with the expected outcomes derived from exposure to the liberal arts: a) interest in a broad range of ideas (TI), b) concerns with theory, becoming logical, analytical and critical in approach to problems and situations (TO), c) interest in artistic matters and a high level of sensitivity and response to esthetic stimulation (Es), d) becoming tolerant of ambiguities and

uncertainties (Co), e) tolerance of differing viewpoints, becoming less judgmental (Au), f) becoming affiliative, trusting and ethical in relations with others (Am).

The validation data for the OPI have been drawn from many sources and utilize several types of information. Correlations with other measures provide the core of these data (Heist & Yonge, 1962, 1968). The validation data available will be presented scale-by-scale for each of the six scales selected for this study.

Thinking Introversion (TI)

A good deal of the information about the TI scale supports the interpretation of the TI as reflecting a general interest in ideas and, to some extent, a "scholarly" orientation. It is a refinement of the original Thinking Introversion scale in the Minnesota T-S-E Inventory (Evans & McConnell, 1957). Focusing primarily on the theoretically relevant correlates of the TI, there is a substantial relation to the Economic (-.63) and Aesthetic (.47) measures found in Allport, Vernon & Lindzey's Study of Values (1951). The correlation of .68 between TI and Thoughtfulness on the Guilford-Zimmerman Temperment Survey (G-Z TS) (1949) and the correlation of -.50 with the Business Interest Scale on the Opinion, Attitude, and Interest Survey (Fricke, 1963) are supportive of the theory that TI reflects an interest in abstract, theoretical thinking not dominated by practical concerns. The literary

interest component of TI is brought out in the correlation with the Literary score (.52) in the Kuder Preference Record-Vocational (Kuder, 1953).

Theoretical Orientation (TO)

Evidence in support of the TO scale as a measure reflecting an interest in problem solving, logical or critical thinking, and science is found in a variety of correlations with established measures. There is substantial correlation with the Study of Values Theoretical scale (.62). In addition, the TO scale correlates with an experimental measure of problem solving ability (.53) as well as with the Mathematical test (.46) from the CEEB Scholastic Aptitude Test (SAT) (CEEB, 1959). It should also be noted that TO correlates substantially with the SAT Verbal (.52). The correlation of .51 with the Thoughtfulness measure on the G-Z TS supports the contention that TO reflects, to some extent, interest in logical, critical thinking.

Estheticism (Es)

The Es scale is significantly related to the Study of Values Aesthetic measure and with the Strong Vocational Interest Blank (SVIB) scales which would be expected -- Artist (.38), Architect (.31), Musician (.52). In addition, Es correlates with the Creative Personality measure (.36) and the Humanities Interest measure (.47) of the OAIS.

Complexity (Co)

Complexity reflects an experimental or flexible orientation in the area of perceiving or organizing phenomena. Co correlates (.44) with the SAT measure of construct complexity (a measure of the number of varied perspectives from which a subject prefers to view a limited range of concepts). Co has its highest correlations with the measures of Creative Personality (.58) and Intellectual Quality (.52) on the OAIS.

Autonomy (Au)

Correlations with the Economic (-.29), Aesthetic (.44) and Religion (-.23) scales on the Study of Values support the non-authoritarian, intellectually liberal aspect of this dimension as do the California Psychological Inventory (CPI) scales measuring Achievement via Independence (.46 for males; .51 for females) and Flexibility (.45 for males; .42 for females). Also consistent is the correlation of Au with the Myers-Briggs Type Indicator (M-B TI) measures of Intuition (.51) and Perception (.39).

Altruism (Am)

The correlations between the Altruism scale and Economic (-.48) and Social (.46) scales in the Study of Values are in line with the interpretation that the altruistic person is not orientated toward personal gains but maintains a concern for the welfare of others. Also supporting the above interpretation are the correlations

(ranging from .39 to .55) with the Social Service scales of the SVIB. The correlation with the Social Service scale of the Kuder is one of the highest coefficients between the OPI and Kuder interest scales. The moderate correlations with the dominance scale from the OPI are also consistent with a dimension presumably reflecting a need to be socially involved and a willingness to deal with people in need of guidance and assistance.

Results of three different approaches to the estimation of the reliability of the OPI are presented (Heist & Yonge, 1962; 1968). Internal consistency of the OPI measures are estimated through coefficients derived by the Kuder-Richardson Formula 21 (KR21) as are test-retest values which reflect the tendency of individuals to maintain their relative positions when tested a second time. Intercorrelations of the OPI scales, based on a normative sample of 7,283 college freshmen, indicate the number of common items scored in the same or opposite direction in two different scales. Theoretical Orientation (TO) and Estheticism (Es) correlate substantially with Thinking Introversion (TI). Complexity (Co) has fairly high correlation with TI, TO, Es and Autonomy (Au), although no items overlap. Altruism (Am) correlates highest with scales not used in the present study, however among the six selected scales has a relatively high correlation with TI, with which it has item overlap.

Description of the Demographic Survey

A demographic survey was developed specifically for this study. It was designed to provide information needed to select subjects for the sample and to analyze differences in participants included in the sample. The survey consists of multiple-choice questions designed to elicit information pertaining to: a) gender, b) age, c) previous postsecondary education, d) previously earned hours of college credit, e) classification of credit hours (i.e. semester hours or quarter hours), f) classification of current occupation (i.e. business contact and business operations, or other occupations including technical, science, arts, social service), and g) name of current occupation (e.g. data processing clerk, financial analyst, etc.). Occupation categories used were adapted from the American College Testing (ACT) Career Planning Program (ACT, 1985), which was selected due to the comprehensive nature of the classifications and because the researcher had previous experience using the CPP. A copy of the survey is in Appendix B.

Data Collection

Data were collected from June 1986 to April 1987. A letter from the Dean of the School for New Learning endorsing the study and encouraging student participation was sent to each student in the population. A representative copy of this letter is in Appendix C.

Administration of the demographic survey and the OPI was conducted in person by the researcher. Phone contact was made with the instructors of the Discovery Workshop, Major Seminar, and Summit Seminar classes to arrange an appropriate day and time to administer the demographic survey and OPI. The instructors set aside two hours of class time on the arranged date for the administration. Students enrolled in these classes were informed of this arrangement one week prior to the administration date.

On the pre-arranged date and time, students in the population were presented with a description of the study and the instruments to be used. Students were assured of complete confidentiality. To identify each survey and assessment instrument, and to assist in follow-up if needed, the researcher precoded each form and answer sheet with an identification number. Subjects were provided with the opportunity to ask any question prior to participating. Participation in the study was totally voluntary. Two hundred and forty-two students were invited to participate in the study, 211 accepted and 31 declined.

Participants were given an envelope containing: a) a copy of the demographic survey, b) an OPI Form F inventory form, and c) an OPI Form F-NCS answer sheet. They were instructed to complete the demographic survey by circling the appropriate number relating to their answer on each question. After completing the demographic survey, the OPI

was administered, with each subject using the answer sheet to respond to the 385 items on the inventory. After completing both the demographic survey and the OPI, the participants put all forms back in the envelope and returned them to the researcher.

Definition of Terms

Altruism - Heist and Yonge's (1962) term for concern for others; a scale on the Omnibus Personality Inventory (OPI).

Autonomy - Heist and Yonge's (1962) term for liberal, non-authoritarian thinking and independence; a scale on the Omnibus Personality Inventory (OPI).

Complexity - Heist and Yonge's (1962) term for an experimental or flexible orientation; a scale on the Omnibus Personality Inventory (OPI).

Discovery Workshop - An intensive three-session workshop required for admission to the bachelor's degree program at the School for New Learning in which students formulate educational, career and life goals, and develop an educational plan to meet these goals.

Estheticism - Heist and Yonge's (1962) term for concern with and sensitivity to artistic activities and stimulation; a scale on the Omnibus Personality Inventory (OPI).

Major Seminar - A course of study lasting one term required for completion of the bachelor's degree program at

the School for New Learning in which students are taught critical thinking and inquiry skills.

Summit Seminar - A one-session seminar required for completion of the bachelor's degree program at the School for New Learning in which students evaluate their collegiate learning experiences and set new goals for future learning.

Theoretical Orientation - Heist and Yonge's (1962) term for concern with theory; a scale used on the Omnibus Personality Inventory (OPI).

Thinking Introversion - Heist and Yonge's (1962) term for reflective thought; a scale used on the Omnibus Personality Inventory (OPI).

Data Analyses

Computer programs were designed using the Statistical Program for the Social Sciences, SPSS-X, and the Statistical Analysis System, SAS, to process data. The data were entered into the Loyola University of Chicago mainframe computer. Frequencies and cumulative frequencies from the data in the survey were calculated. Analysis of the responses to the demographic survey was described using crosstabs. Using a general linear models procedure in SAS, analysis of the responses to the OPI were described using MANOVA. A set of dependent variables, the six scales selected from the OPI was tested for differences between six classifications from the demographic survey. Variance

between the groups was compared to variance within each group. A resulting F-ratio and an associated significance level were found.

Summary

The methodology used in investigating the developmental impact of a liberal arts bachelor's degree program on adult learners was described in this chapter. This included a description of the population, a description of the instrument, the description of the demographic survey, data collection, definition of terms, and data analyses. The following chapter presents and discusses the results of the study.

CHAPTER IV

RESULTS and DISCUSSION

The three preceding chapters describe the purpose of this study, a review of the related literature and the methodology used in analyzing the research objectives. Chapter IV presents the results of the data collection and analysis.

Demographic Profile of Respondents

Table 4.1 provides a summary of the demographic characteristics of the respondents. A total of 242 adult learners enrolled at three process steps of the bachelor's degree program in the School for New Learning of De Paul University were asked to participate in this study and 211 students (87.1%) agreed to take part. Of the total population of 211 participants, 210 met the criteria used in this study. To meet the criteria, a participant must have answered all questions on the demographic survey as well as on the Omnibus Personality Inventory. Sixty-eight students (32.4%) were enrolled in the initial process step of the baccalaureate program, Discovery Workshop; 58 (27.6%) were enrolled in the mid-point step, Major Seminar; and 84 (40.0%) were enrolled in the final step, Summit Seminar.

Table 4.1

Demographic Characteristics of Respondents

Characteristics	Respondents	
	N=210	%
Process Step Enrolled		
Discovery Workshop	68	32.4
Major Seminar	58	27.6
Summit Seminar	84	40.0
Gender		
Male	62	29.5
Female	148	70.5
Age Range		
Under 30	41	19.5
31 - 40	106	50.5
41 or More	63	30.0
Previous Post-Secondary Education		
No	26	12.4
Yes, at De Paul or other 4-year Private College or University	60	28.6
Yes, at a Public 2-year College or University	83	39.5
Yes, at a Public 4-year College or University	33	15.7
Yes, at a technical/vocational or occupational school	8	3.8
Previous College Credit Hours Earned (Semester Hours)		
Less than 10	49	23.3
11 - 20	36	17.1
21 - 30	32	15.2
31 - 40	19	9.0
41 - 50	15	7.1
More than 50	59	28.1
Occupation Category		
Business Contact and Operations	151	71.9
Other	59	28.1

A larger number of women (148) than men (62) were registered in each of the three process steps and therefore women represent a larger percentage (70.5%) of the total population. The results of the demographic survey in the current study, however, indicate that both men and women in the population have a similar profile with regard to demographic characteristics. Table 4.2 provides a profile by gender.

The participants in this study are largely females within the 31-to-40 year old age group. Most respondents have been previously enrolled in post-secondary education at a public two-year college or university. Participants in the present study most typically entered the School for New Learning after earning more than 51 semester hours of college credit at another post-secondary institution. Business Contact and Business Operations is the occupation category of the majority of the respondents.

Although more females than males participated in the study, the male demographic profile does not vary from that of the female demographic profile. The majority of the male participants in this study is within the 31-to-40 years of age group, have previously been enrolled at a two-year public college or a university, have earned more than 51 hours of college credit prior to enrolling in the School for New Learning and are in the Business Contact and Business Operations occupation category.

Table 4.2

Demographic Characteristics of Respondents by Gender

Characteristics	Males		Females	
	N=62	%	N=148	%
Process Step Enrolled				
Discovery Workshop	21	33.9	47	31.8
Major Seminar	10	16.1	48	32.4
Summit Seminar	31	50.0	53	35.8
Age Range				
Under 30	10	16.1	31	20.9
31 - 40	38	61.3	68	45.9
41 or More	14	22.6	49	33.1
Previous Post-Secondary Education				
No	8	12.9	18	12.2
Yes, at De Paul or other 4-year Private College or University	12	19.4	48	32.4
Yes, at a Public 2-year College or University	24	38.7	59	39.9
Yes, at a Public 4-year College or University	13	21.0	20	13.5
Yes, at a technical/ vocational or occupa- tional school	5	8.1	3	2.0
Previous College Credit Hours Earned (Semester Hours)				
Less than 10	11	17.1	38	25.7
11 - 20	9	14.5	27	18.2
21 - 30	12	19.4	20	13.5
31 - 40	6	9.7	13	8.8
41 - 50	6	9.7	9	6.1
More than 50	18	29.0	41	27.7
Occupation Category				
Business Contact and Operations	44	71.0	107	72.3
Other	18	29.0	41	27.7

As a group, there were fewer older participants (those older than 40 years-of-age) in the population than there were younger participants, with 70% of all those in the study identified as 40 years-of-age or younger.

Proportionally, males were a younger group than females, with 77.4% of the male participants and 66.8% of the female participants identified as 40 years-of-age or younger.

While the single largest group of participants in this study is classified as having earned more than 50 hours of college credit (59 or 28.1%), there are a larger number of the participants classified within the 0-to-30 credit hour range (117 or 55.7%) than within the 31-to-more than 50 credit hour range (93 or 44.2%). This is most likely due to the fact that, proportionally, females, the larger segment of the population, entered the School for New Learning with fewer previously earned credit hours.

The profile in the present study correlates with that of a recent study of 1,000 adult learners which revealed that more women (58%) than men (42%) study as adults (Aslanian & Brickell, 1988). In Aslanian and Brickell's (1988) study, 41% of adult learners fell within the 30-39 age range; 82% attended public institutions, with a large proportion (66%) at four-year institutions. In addition, they found that although women are a larger population among adult learners, there nevertheless is a substantial population of adult men in college classrooms.

furthermore, their study confirms that female adult students are older than male adult students, with 35% of female adult students 40 years of age or older, compared to about 20% of male adult students in that same age category.

These findings reflect a difference in life schedules. The traditional roles of women as homemakers and men as bread winners are no longer the status quo. Women who did not pursue higher education after high school are doing now what some men did earlier. They are entering the workforce, pursuing professional positions, and undertaking college study as a means of entry and advancement in those positions. Due to differences in life schedules, there is a larger pool of capable, undereducated women in American society. They are pursuing the same goals as some men, but they are doing it at a later stage in their life; thus, the predominance of women who are adult learners (Aslanian & Brickell, 1988).

The demographic profile of the participants in each of the three process steps is consistent with that of the total population. Women outnumber men in each process step; however, the Summit Seminar group has a larger proportion of men than does the Discovery Workshop or Major Seminar. More than half of the participants in the Major Seminar and Summit Seminar steps fall within the 31-40 year age range. While at the Discovery Workshop step, the 40 years or older age range, with nearly 40% of the group, is

largest by a margin of merely two participants. This is the only distinctive demographic trend when comparing the total group profile to that of each of the process steps. Around 40% of the participants in each step previously attended a public two-year college or university, which conforms identically to the group as a whole. Furthermore, approximately 55% in each step entered the School for New Learning with 30-or-more semester hours of college credit. In addition, the vast majority in each process step classified their occupation category as Business Contact and Operations. Table 4.3 depicts the demographic characteristics as delineated by step enrolled.

Findings and Analysis Relative to Research Objectives

This study established four research objectives which are described in Chapter I. This section presents the data and their analysis as they relate to each of the four objectives.

Objective 1. To determine if there is a significant difference in the level of intellectual, social and personal development, as measured by the Omnibus Personality Inventory between adult learners at any of three points (entering, mid-point, and completion) of a competence-based liberal arts bachelor's degree program.

Objective 1 addresses the developmental progression of adult learners who are registered at three distinct steps of the bachelor's degree program in De Paul University's School for New Learning. The three steps selected are a pre-admission workshop for entering students (the Discovery

Table 4.3

Demographic Characteristics of Respondents by Process Step

Characteristics	Discovery Workshop		Major Seminar		Summit Seminar	
	N=62	%	N=58	%	N=84	%
Gender						
Male	21	30.9	10	17.2	31	36.9
Female	47	69.1	48	82.8	53	63.1
Age Range						
Under 30	16	23.5	13	22.4	12	14.3
31 - 40	25	36.8	31	53.4	50	59.5
41 or More	27	39.7	14	24.1	22	26.2
Previous Post-Secondary Education						
No	12	17.6	6	10.3	8	9.5
Yes, at De Paul or other 4-year Private College or University	17	25.0	21	36.2	22	26.2
Yes, at a Public 2-year College or University	26	38.2	20	34.5	37	44.0
Yes, at a Public 4-year College or University	10	14.7	9	15.5	14	16.7
Yes, at a technical/ vocational or occupa- tional school	3	4.4	2	3.4	3	3.6
Previous College Credit Hours Earned (Semester Hours)						
Less than 10	16	23.5	13	22.4	20	23.8
11 - 20	8	11.8	13	22.4	15	17.9
21 - 30	13	19.1	8	13.8	11	13.1
31 - 40	6	8.8	6	10.3	7	8.3
41 - 50	4	5.9	1	1.7	10	11.9
More than 50	21	30.9	17	29.3	21	25.0
Occupation Category						
Business Contact and Operations	49	72.1	47	81.0	55	65.5
Other	19	27.9	11	19.0	29	34.5

Workshop), a research seminar taken at the mid-point of the degree program (the Major Seminar), and a pre-graduation seminar (the Summit Seminar). The Omnibus Personality Inventory (OPI) was used as a measure of intellectual, social and personal development. Specific scales used include: to measure intellectual development -- Thinking Introversion (TI) and Theoretical Orientation (TO), Estheticism (Es); social development -- Autonomy (Au), Altruism (Am); and personal development -- Estheticism (Es), Complexity (Co), Altruism (Am). These scales are defined on pages 60 and 61.

The point at which any score on the OPI may be defined as a high score is relative. On most scales, standard scores of 60 (84th percentile) or above are interpreted as sufficiently high for the essence of the respective definition to apply; persons whose scores fall above the standard score of 70 are seen as very appropriately characterized by the definition (Heist & Yonge, 1962, 1968).

While Summit Seminar students had lower mean standard scores for Theoretical Orientation, Estheticism, Complexity and Autonomy than did those in Discovery Workshop, comparisons between mean standard scores in the Major Seminar and Summit Seminar indicate that, again with the exception of the score for Estheticism, Summit Seminar students scored higher on each scale than did students in

the Major Seminar. This is an indication that there may be development along these personality constructs (the OPI scales) for students in the Summit Seminar when compared to those in the Major Seminar. However, as will be described later, the differences in mean standard OPI scores among students at each process step are not proved to be significant statistically. Mean standard scores and standard deviations at each of the three steps are reported in Table 4.4.

Table 4.4

Comparison of the OPI Mean Standard Scores and Standard Deviations of Discovery Workshop, Major Seminar and Summit Seminar Participants

<u>OPI</u> Scales	Discovery Workshop (N=68)		Major Seminar (N=58)		Summit Seminar (N=84)	
	Mean	SD	Mean	SD	Mean	SD
TI	51.50	8.43	50.58	7.68	52.06	7.87
TO	48.88	9.55	46.19	8.67	48.56	8.89
Es	52.54	8.31	54.15	6.74	52.00	10.12
Co	51.83	9.23	51.44	9.19	51.72	9.60
Au	56.29	6.65	54.19	7.66	55.48	7.80
Am	52.72	8.47	50.22	9.44	53.04	9.71

Comparisons of OPI standard scores for participants in all three process steps indicate that students in the Discovery Workshop have a higher percentage of standard

scores equal to or greater than 60 on the Thinking Introversion, Complexity, and Autonomy scales (Table 4.5). This would seem to indicate that there is a greater likelihood that, when compared to those in the Major Seminar and Summit Seminar groups, thinking among students in the Discovery Workshop is less dominated by immediate conditions and situations or by commonly accepted ideas. Their interests lie in a wide variety of areas. In addition, the finding illustrates that Discovery Workshop participants tended to be more tolerant of ambiguities and uncertainties as well as of viewpoints other than their own. This finding contradicts that of Sexton and Ungerer (1975) who provided evidence that a liberal arts education style, experiential education, produces autonomy. In the present study, autonomy is higher among those entering the program than those leaving it.

Summit Seminar students have a higher percentage of standard scores at or above 60 on the Theoretical Orientation, Estheticism, and Altruism scales. As such, they might be seen as more likely to prefer dealing with theoretical concerns and problems to a greater extent than do Discovery Workshop or Major Seminar students. Those in the Summit Seminar group can be seen to be generally more logical, analytical and critical in their approach to problems and situations. In addition, the findings indicate that a high level of sensitivity and response to

esthetic stimulation is a characteristic that can be applied to Summit Seminar participants as well as evidence of the ability to be affiliative and more trusting and ethical in relation to other individuals. This concept is supported in previous research. Korn (1968) found that the college experience is particularly potent in its effect on the intellectual development of the individual. Among the most frequently articulated goals of a college education are a.) increased appreciation for the complexity of many problems and b.) a greater commitment to the use of reason in solving problems. Included in this concept of intellectual development is the ability to respond to a broad range of human emotion in relation to other individuals, works of art, and the environment in general. Stephenson and Sexton (1974) also found that experiential education enhances the students' sensitivity and understanding for the human condition and thus increases their level of estheticism. This appears to have been demonstrated in the analysis of the OPI standard scores of Summit Seminar students. Table 4.5 presents a comparison, between the three process step groups, of mean standard scores on the OPI scales equal to or greater than 60.

Table 4.5

Comparison of the OPI Standard Scores ≥ 60 for
Participants in the Discovery Workshop, Major Seminar
and Summit Seminar

<u>OPI</u> Scales	Discovery Workshop (N=68)		Major Seminar (N=58)		Summit Seminar (N=84)	
	N	%	N	%	N	%
TI	15	22.05	8	13.79	16	19.04
TO	8	11.76	2	3.44	13	15.47
Es	14	20.58	11	18.96	21	25.00
Co	16	23.52	11	18.98	17	20.23
Au	24	35.29	10	17.24	23	27.38
Am	17	25.00	11	18.96	26	30.95

An analysis of the mean standard scores on the OPI for participants at each of the three process steps reveals that there is not a significant variance in the mean standard scores at any of the three steps. Furthermore, as a group, students in the Major Seminar have the lowest mean standard scores on five of the six scales on the OPI. As such, the hypothesis that mean standard scores on each of the six scales should increase from the Discovery Workshop to the Major Seminar due to the students' exposure to a program of study in the liberal arts is not proved. With the exception of the Estheticism scale, students in the Major Seminar had a lower mean standard score for each of

the OPI scales than did students enrolled in the Discovery Workshop. Therefore, it appears that, as participants in this study, Discovery Workshop students entered the School for New Learning with heightened sensitivity to the elements essential for positive developmental change and, in fact, demonstrated a greater propensity towards measurable growth in intellectual orientation and socio-emotional adjustment. It is assumed that this may be due to the fact that at the Discovery Workshop stage, individuals are in a transition period. They are attempting to cope with change in their lives and as a result they have opened themselves up to what may be a new or renewed experience -- enrolling in college. Some specific life event or "trigger" (Aslanian & Brickell, 1988) has caused them to seek out higher education and as such they are motivated, ready and anxious to begin. While they may not consciously be aware of it, their emotional state and corresponding frame-of-mind are charged with energy and, thus, they are open to new attitudes, values and interests. In short, they are open to change.

An analysis of mean standard scores on the OPI in relation to previously earned college credit for students at each step indicates that with the exception of the Major Seminar scores on Complexity and the Summit Seminar scores on Estheticism, those students with more than 30 hours of previously earned credit consistently have higher mean

standard scores on the OPI scales that those with less than 30 previously earned college credit hours. This would indicate that as students progress through a higher education program of study, the collegiate experience has a formative effect demonstrated by their developmental growth. Comparative statistics for participants in this study are found in Table 4.6.

Table 4.6

Comparison of the OPI Mean Standard Scores for Discovery Workshop, Major Seminar, and Summit Seminar Participants with ≤ 30 Credit Hours and > 30 Credit Hours

<u>OPI</u> Scales	Discovery Workshop (Total N=68)		Major Seminar (Total N=58)		Summit Seminar (Total N=84)	
	N=37	N=31	N34	N=24	N=46	N=38
TI	50.50	53.19	48.88	53.00	51.23	53.05
TO	47.00	51.12	44.88	48.04	47.04	50.39
Es	51.91	53.29	53.26	55.41	52.41	51.50
Co	51.70	52.00	52.14	50.45	49.58	54.31
Au	55.32	57.45	53.47	55.20	54.73	56.39
Am	52.21	53.32	49.58	51.12	52.30	53.94

Prior to collection of the data in the present study, it was assumed that the greater the exposure one has to college study, the more likely one is to experience not only cognitive development but personal development. Therefore, the mean standard scores of participants in

this study who have more-than-30 previously earned credit hours conform with this assumption. Previous research studies further support this finding.

A study of students at 13 colleges to whom the OPI was administered both in their freshman and senior years resulted in unequivocal evidence that change occurred in an upward/positive movement on mean standard OPI scores for both men and women on all scales (Chickering & McCormick, 1973). Lehman (1963) found that developmental growth was particularly noted in the sophomore year (e.g. after the student has completed at least 30 hours of credit).

Developmental growth among adult learners proceeding through an undergraduate program of study has been previously demonstrated by Weathersby and Tarule (1980) who found that formal education, whether consciously or not, is a developmental intervention in adults' lives. It becomes an activity that by its very nature is linked to processes of growth, developmental change and transformation.

In the present study, results from the MANOVA using Wilks' Criterion (Rao, 1973), evaluating mean differences on the six dependent variables simultaneously, indicate that process step has a resulting F value = 0.74 and an associated significance level (0.7077) in relationship to the total model (Table 4.7). Therefore, there is no proven significant difference on the six OPI scales in relationship to the process step in which participants are

enrolled.

Table 4.7

Wilk's Criterion of MANOVA

Source	df	F-value*	PR > F
Process Step	12	0.74	0.7077
Sex	6	2.53	0.0227
Age	12	1.67	0.0725
Occupation Category	6	1.61	0.1481

*p < .05

Summary and Discussion

An analysis of Objective 1 finds there is not a significant difference in the standard scores on six scales (Thinking Introversion, Theoretical Orientation, Estheticism, Complexity, Autonomy, and Altruism) of the Omnibus Personality Inventory, which measure intellectual, social and personal development, among students at three distinct steps of a competence-based bachelor's degree program.

Prior to the start of the research, observation and discussion with students at the Discovery Workshop step indicated that they were entering the program concerned with pragmatic issues. They wanted to know what they would be required to do to complete the degree program. How much

would it cost? How long would it take? Would any previous hours of college credit which they completed be accepted? There was little concern demonstrated on the part of these Discovery Workshop students as to the effect that the degree program would have on them as individuals. The degree program and advanced study were seen as a means to an end -- earning credentials (a bachelor's degree) which are required to advance them in their chosen career.

This reasoning was not shared by the Summit Seminar students who were observed. They reflected on the collegiate experience as one which was mind-expanding. They saw themselves as changed persons and expressed a stronger appreciation for the intrinsic benefits of liberal arts study. They were observed to be more open to a range of opinions and were able to better articulate their own viewpoints.

It is surprising therefore to analyze the results of this study which found that comparisons of OPI mean standard scores at the final step (the Summit Seminar) with those at the first step (the Discovery Workshop) reveal that Summit Seminar students scored higher on only three scales (Thinking Introversion, Estheticism and Autonomy).

Weathersby and Tarule (1980) found that few developmental changes are seen as occurring as a result of time. A process of qualitative change is involved in development implying both choice and necessity in

interaction with life circumstances. As applied in this study, which compares cross-sections of adult learners, the difference in amount of time during which students were enrolled at each process step should not be the critical factor in measuring changes in development. Rather, the development should occur as a result of exposure to experiences designed to foster changes in judgments, feelings, knowledge or skills due to life events (Chickering, 1976). As students process from step to step, they encounter additional experiences from which development can occur. While there were measurable differences in the mean standard OPI scores among students at each process step, the impact of progression from step to step was not proven as clearly as had been hypothesized.

Heath's (1980) model finds that a liberal arts education enhances one's ability to develop more stably organized cognitive processes. Summit Seminar students demonstrate this with their performance on the Thinking Introversion scale. Bowen (1977) found that college educated people are more independent and self-sufficient. This supports the finding of higher scores for those in the Summit Seminar on Autonomy. The fact that Summit Seminar students achieved lower mean standard scores than Discovery Workshop students on three of the OPI scales would seem to indicate that their development along those constructs (Theoretical Orientation, Complexity and Altruism) was not

significantly impacted due to their exposure to the college.

Students at the middle step (the Major Seminar) had the lowest mean standard scores on every scale except Estheticism. When Summit Seminar scores are compared to Major Seminar scores, Summit Seminar students score higher on five of six scales. However, Discovery Workshop students also scored higher than Major Seminar students on five of the six scales. This is most likely due to the fact that there was not a significant change in life circumstances from the point at which some students were enrolled in the Discovery Workshop and the Major Seminar. Therefore students' experiences in the two steps did not significantly change due to the impact of the subject matter studied or the interaction with fellow students, faculty or counselors which might otherwise effect one's self-actualization.

At all three steps, students entering the degree program with more than 30 previously-earned college credit hours had consistently higher scores than those with 30-or-fewer credit hours. The percentage of students scoring sufficiently high for the definition of the OPI scales to apply varied at each process step, with approximately 20% of the participants, on the average, scoring at or above 60 on each scale.

Objective 2: To determine if there is a significant difference in the level of intellectual, social and personal development, as measured by the Omnibus Personality Inventory between male and female adult learners enrolled in a competence-based liberal arts bachelor's degree program.

Objective 2 addresses differences in intellectual, social, and personal developmental progression between men and women enrolled in the Discovery Workshop, Major Seminar and Summit Seminar in De Paul University's School for New Learning.

Mean standard scores and standard deviations for males and females are reported in Table 4.8. The mean standard scores on the OPI reveal that males scored higher than females on four of the six scales, the exceptions being Estheticism and Autonomy. Sanford (1966) found in a study of Vassar women that they became more stable and autonomous, than they were previously, after being enrolled in college. In the present study however, on the Autonomy scale, there was a difference of only 0.2 between the mean standard scores of men and women.

Table 4.8

Comparison of the OPI Mean Standard Scores and Standard Deviations of Male and Female Participants

<u>OPI</u> Scales	Males (N=62)		Females (N=148)	
	Mean	SD	Mean	SD
TI	51.61	7.42	51.41	8.23
TO	51.06	8.60	46.73	8.99
Es	50.67	9.92	53.64	8.03
Co	52.56	9.43	51.31	9.29
Au	55.24	8.09	55.45	7.15
Am	53.16	9.29	51.74	9.28

An analysis of the percentage of scores equal to or greater than 60, indicating a measure of development on each scale, illustrates that males have a greater percentage of such scores on the Theoretical Orientation and Autonomy scales while females have a greater percentage on the Thinking Introversion, Estheticism, and Altruism scales. An identical percentage of males and females scored at or above 60 on the Complexity scale. This finding demonstrates that male participants have greater interest in problem solving and logical and critical thinking, while female participants tend to be more reflective and show a greater concern for artistic

activities and for other persons. The relatively small percentage of both men and women scoring 60 or above on the OPI scales may be an indication that, in general, this population of adult learners, have not demonstrated significant growth along the personality constructs upon which they have been measured. Table 4.9 presents a comparison, between males and females, of scores on the OPI scales equal to or greater than 60.

Table 4.9

Comparison of OPI Standard Scores \geq 60 for Male and Female Participants

<u>OPI</u> Scales	Males (Total N=62)		Females (Total N=148)	
	N	%	N	%
TI	10	16.12	28	18.91
TO	12	19.35	11	7.43
Es	11	17.74	35	23.64
Co	13	20.96	31	20.94
Au	18	29.03	39	26.35
Am	15	24.19	39	26.35

Females with more than 30 previously-earned college credit hours achieved a higher percentage of over 60 mean standard scores on only one OPI scale -- Thinking Introversion. However, males with over 30 college credit hours had a higher percentage of over 60 mean standard

scores on Thinking Introversion, Complexity, Autonomy, and Altruism. This may, in part, be explained by Aslanian & Brickell's (1988) findings that reflect a difference in life schedules: some women are doing later what some men did earlier. Since as a group they are older when they enter college, those females with larger numbers of college credit hours reach that point later than do males in the population and therefore may not be as likely to experience significant changes in development. Comparisons of OPI mean standard scores equal to or greater than 60 for male and female participants, in relation to previously-earned college credit hours is found in Table 4.10.

Table 4.10

Comparison of the OPI Standard Scores \geq 60 for Male and Female Participants by Previously-Earned College Credit Hours

<u>OPI</u> Scales	\leq 30 Credit Hours				$>$ 30 Credit Hours			
	Males		Females		Males		Females	
	(Total N=32)		(Total N=85)		(Total N=30)		(Total N=63)	
	N	%	N	%	N	%	N	%
TI	4	12.50	14	16.47	6	20.00	15	23.80
TO	6	18.75	6	7.05	6	20.00	5	7.93
Es	7	21.87	18	21.17	4	13.33	17	26.98
Co	5	15.62	17	20.00	8	26.66	14	22.22
Au	8	25.00	20	23.52	10	33.33	19	30.15
Am	5	15.62	21	24.70	10	33.33	18	28.57

Comparisons of male and female participants' scores within the process steps (Table 4.11) indicate that among women participants, Summit Seminar females had the highest mean standard scores on each of the OPI scales except Thinking Introversion and Estheticism. In practical terms, this would seem to indicate that Summit Seminar females were more likely to prefer dealing with theoretical concerns and complexity than were females in the Discovery Workshop and Major Seminar. Similarly, Borzak and Hurst (1977) found that the traditional liberal arts goals of objective thinking, integration of diverse materials and ideas, and effective problem solving were possible outcomes achieved through experiential learning. Among males, Discovery Workshop participants had the highest mean standard scores on the each of the OPI scales except Estheticism and Complexity. As such, Discovery Workshop males can be seen as less appreciative of artistic stimulation and less tolerant of ambiguity than their Major Seminar and Summit Seminar counterparts. Males enrolled in each process step had higher mean standard scores than females in Theoretical Orientation and Complexity. It would appear from this finding that based on mean standard scores on the OPI, men showed some appreciable change in development as they progressed from step to step while women participants experienced a more significant impact in this regard.

Table 4.11

Comparison of the OPI Mean Standard Scores and Standard Deviations of Male and Female Participants in the Discovery Workshop, Major Seminar and Summit Seminar

OPI Scales	Discovery Workshop (Total N=68)				Major Seminar (Total N=58)				Summit Seminar (Total N=84)			
	Males (N=21)		Females (N=47)		Males (N=10)		Females (N=48)		Males (N=31)		Females (N=53)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
TI	52.85	8.19	50.89	8.54	50.90	6.96	50.52	7.89	51.00	7.15	52.67	8.26
TO	51.85	7.49	47.55	10.13	48.80	6.64	45.64	9.00	51.25	9.88	46.98	7.93
Es	48.85	9.22	54.19	8.03	53.20	6.49	54.35	6.84	51.09	11.24	52.52	9.47
Co	52.85	9.85	51.38	9.01	52.90	5.32	51.14	9.83	52.25	10.36	51.41	9.21
Au	57.14	7.58	55.91	6.24	55.40	7.22	53.93	7.79	53.90	8.65	56.41	7.19
Am	54.38	8.49	51.97	8.44	49.50	8.52	50.37	9.70	53.51	10.00	52.77	9.62

Further analysis shows that the mean standard scores for males on Thinking Introversion and Autonomy were higher than those of females in both the Discovery Workshop and the Major Seminar as was Altruism for males in the Discovery Workshop and Summit Seminar. Therefore, male participants demonstrated a greater tendency toward academic activities; abstract, reflective thought; tolerance of viewpoints other than their own and a concern with social issues. However, females had the highest mean standard scores for Estheticism in all three process steps. Table 4.11 reports mean standard scores and standard deviations for males and females at each of the three process steps.

Mean standard scores and standard deviations for males and females on each OPI scale, in relation to previously-earned college credit hours, are compared in Table 4.12. An analysis of these standard scores reveals that, with one exception, both men and women with more than 30 hours have consistently higher mean standard scores on the OPI than those with less than or equal to 30 credit hours. Only on the Estheticism scale do men with 30 credit hours or less have a higher mean standard score. Further analysis reveals that among participants with more than 30 hours of college credit, men have higher mean standard scores than women on Theoretical Orientation, Complexity, Autonomy, and Altruism. This finding seems contradictory

as high scores on Theoretical Orientation indicate a rational and critical approach to problems while high scores on Complexity reflect more flexible and experimental approaches.

Table 4.12

Comparison of the OPI Mean Standard Scores and Standard Deviations of Male and Female Participants by Previously-Earned College Credit Hours

OPI Scales	≤ 30 Credit Hours				> 30 Credit Hours			
	Males (N=32)		Females (N=85)		Males (N=30)		Females (N=63)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
TI	51.53	7.05	49.68	8.63	51.70	7.92	53.74	7.09
TO	49.68	8.93	45.16	9.27	52.53	8.12	48.84	8.21
Es	52.00	9.78	52.69	8.05	49.26	10.04	54.93	7.89
Co	51.18	9.70	50.92	9.65	54.03	9.06	51.84	8.83
Au	52.90	8.16	55.17	7.34	57.73	7.35	55.82	6.91
Am	51.68	7.90	51.41	9.47	54.73	10.49	52.19	9.07

Results from the MANOVA using Wilks' Criterion, testing the overall gender effect on the dependent variables, indicates that gender is significant with an F-value = 2.53 and an associated significance value (0.0227) (refer back to Table 4.7). The MANOVA reveals that sex is significant in relation to the dependent variable Theoretical Orientation (F = 9.59) with an

associated significance value (0.0023) (Table 4.13) and Estheticism ($F = 4.30$) with an associated significance value (0.039) (Table 4.14). Table 4.15 illustrates the significance of the total model (all of the independent variables combined) in relation to Theoretical Orientation which reflects concern with theory, becoming logical, analytical and critical in approach to problem situations. Estheticism reflects an interest in artistic matters and a high level of sensitivity and response to esthetic stimulation. In addition to significant differences in sex in relation to these two dependent variables, the total model is proved also significant for Theoretical Orientation.

Table 4.13

MANOVA of Theoretical Orientation Standard Scores in Relation to Process Step, Sex, Age and Occupation Category

Source	df	Sum of Squares	F-value*	PR > F
Process Step	2	269.30	1.84	0.1611
Sex	1	700.42	9.59	0.0023
Age	2	10.49	0.07	0.9307
Occupation Category	1	51.58	0.71	0.4018

*p < .05

Table 4.14

MANOVA of Estheticism Standard Scores in Relation to
Process Step, Sex, Age and Occupation Category

Source	df	Sum of Squares	F-value*	PR > F
Process Step	2	164.56	1.13	0.3243
Sex	1	312.16	4.30	0.0395
Age	2	106.39	0.73	0.4821
Occupation Category	1	179.74	2.48	0.1174

*p < .05

Table 4.15

MANOVA of Theoretical Orientation Scores in Relation to
the Total Model

Source	df	Sum of Squares	Mean Squares	F-value*	PR > F
Between Groups	27	3947.33	146.19	2.00	0.0040
Within Groups	182	13290.64	73.02		
Total	209	17237.97			

*p < .05

Summary and Discussion

Males tend to be more scientifically-oriented and

women more sensitive to artistic matters as revealed by an analysis of Objective 2 which shows a measured significance of 0.0227 for sex in relation to mean standard scores on the Omnibus Personality Inventory (Table 4.7). Both men and women show tendencies to be tolerant of other viewpoints and to becoming less judgmental as revealed by mean standard scores for Autonomy (Table 4.8).

Males scored higher than females on each OPI scale except Autonomy and Estheticism. Prior to collection of data for this study, informal discussions with adult women in the School for New Learning revealed a desire to pursue higher education to achieve the necessary freedom to gain maximum mobility in an increasingly complex society. With relatively high mean standard scores on the Autonomy scale, it appears that in fact women participating in this study exhibited growth along this construct. Schlossberg (1978) found that many adult women find themselves trapped at middle age due to inadequate personal resources to cope with difficult situations and crushing restrictions imposed on them by social situations. Although societal expectations (and opportunities) for women have changed dramatically in the past ten years, this need for autonomy, to be independent of authority as traditionally imposed by social institutions, is still an issue among the women participants in this study. Of interest is the fact that the measured performance of male participants on this scale

indicates that they too have a relatively high mean standard score on Autonomy. This may be due to the fact that, in pursuing a bachelor's degree, despite the fact that some are already in professional occupations, the freedom represented by the baccalaureate presents new opportunities for success. However, in the present study males and females with 30 or more previously-earned college credit hours consistently had higher OPI scores than those with less than 30 previously-earned college credit hours. This appears to indicate that for both males and females, advancement toward degree completion reflects a measurable difference in personality as defined by specific constructs (the OPI scales). Men had a larger percentage of sufficiently high scores (60 or higher) on Theoretical Orientation and Autonomy for the essence of the definition of the OPI scale to apply. A previous study has shown that men are dominated by a direct achievement syndrome, with success measured by abilities to support a family (Schlossberg, 1978). Kuh and Ardaiole (1979) also found adult men to be more interested in reflective thought. Mean standard scores on the OPI for male participants illustrate a tendency among men to re-examine their motivations, to question their drive for achievement and to become increasingly more self-aware and preoccupied with emotions. A higher percentage of scores above 60 on Thinking Introversion, Estheticism, and Altruism was gained

by women.

Objective 3. To determine if there is a significant difference in the level of intellectual, social and personal development, as measured by the Omnibus Personality Inventory between adult learners, as delineated by age, enrolled in a competence-based liberal arts bachelor's degree program.

Objective 3 addresses the developmental progression between participants in three age ranges (30 years-of-age or younger, 31 to 40 years-of-age and 41 years-of-age or older) for adult learners enrolled in the Discovery Workshop, Major Seminar and Summit Seminar in De Paul University's School for New Learning.

An analysis of the mean standard scores on the OPI for participants in each of the three age-range categories reveals that there is not a significant variance in the mean standard scores at any of the three age-ranges. Therefore, the hypothesis that mean standard scores on each of the six scales should differ as delineated by age is not proved. Neugarten (1977), Schlossberg (1978) and Whitbourne and Weinstock (1979) all found that changes in adult development should not be determined solely by chronological age.

Participants in the 31 - 40 age range, as compared to those in the 30 or younger or 41 or older age ranges, achieved the highest scores on three OPI scales: Theoretical Orientation, Complexity and Autonomy. In addition, mean standard scores for this group on the Estheticism and Altruism scales were identical to those of

the 41 years-of-age or older group. Participants in the 30-or-younger age group achieved the highest mean standard score on the Thinking Introversion scale with a difference of merely .062 from the 41-or-more group on that same scale. The younger participants appear to be less dominated by immediate conditions and situations or by commonly accepted ideas, while those in the middle age range appear to be generally logical, analytical and critical in their approach to problems, are prone to complexity rather than simplicity and are less judgmental than others. Older participants exhibit a high level of sensitivity and response to esthetic stimulation and their concern with social issues. Mean standard scores and standard deviations for each age group are reported in Table 4.16.

An analysis of the percentage of scores equal to or greater than 60, indicating a measure of development on each scale, shows that participants in the 31 - 40 age group had the highest percentage of over 60 mean standard scores on the Theoretical Orientation, Complexity, and Autonomy scales. This may demonstrate, as it relates to the definitions of these scales on the OPI, that participants in this middle age group (31-40 years of age) reflect a greater interest in problem solving, logical or critical thinking and, as liberal, non-authoritarian thinkers, they have an experimental or flexible orientation

as they perceive and organize phenomena.

Table 4.16

Comparison of the OPI Mean Standard Scores and Standard Deviations of Participants by Age Range

<u>OPI</u> Scales	≤ 30 Years (N=41)		31 to 40 Years (N=106)		> 40 Years (N=63)	
	Mean	SD	Mean	SD	Mean	SD
TI	52.26	7.76	50.72	8.13	52.20	7.90
TO	48.07	9.58	47.98	8.71	48.01	9.49
Es	52.36	8.84	52.20	8.84	53.98	8.43
Co	51.61	9.38	52.56	8.99	50.25	9.81
Au	54.29	8.04	55.85	7.61	55.31	6.68
Am	48.17	8.73	52.42	9.25	54.31	9.00

In comparison, participants in the 30-or-younger age group had a higher percentage of over 60 mean standard scores on Thinking Introversion while those in the 41-or-older age group scored the highest percentage of over 60 mean standard scores on Altruism. This finding reflects the fact that the youngest group (30-or-younger) shows a greater interest in ideas and has a more scholarly orientation while the oldest group (41 or older) maintains the greatest concern for the welfare of others.

Comparisons of OPI mean standard scores equal to or greater than 60 for each age group is found in Table 4.17.

Table 4.17

Comparison of the OPI Standard Scores \geq 60 by Age Range

<u>OPI</u> Scales	\leq 30 years (Total N=41)		31 - 40 Years (Total N=106)		> 40 Years (Total N=63)	
	N	%	N	%	N	%
TI	9	21.95	17	16.03	13	20.63
TO	5	12.19	14	13.20	4	6.34
Es	9	21.95	18	16.98	19	30.15
Co	9	21.95	24	22.64	11	17.46
Au	11	26.82	32	30.18	14	22.22
Am	4	9.75	28	26.41	22	34.92

Further analysis, comparing the mean standard scores of participants in each age range within the Discovery Workshop (Table 4.18), the Major Seminar (Table 4.19) and the Summit Seminar (Table 4.20), reveals that with the exception of students in the Discovery Workshop -- where younger participants (30 years-of-age or under) had the highest mean standard scores on three scales: Thinking Introversion, Theoretical Orientation and Estheticism as compared to the other age groups -- by and large, the older participants (31-40 years and over 40 years-of-age) achieved higher mean standard OPI scores on each scale. This finding may demonstrate that the chronologically older participants, enrolled for a longer period of time in a course of study at the School for New Learning, had

Table 4.18

Comparison of the OPI Mean Standard Scores and Standard Deviations of Discovery Workshop Participants by Age Range

<u>OPI</u> Scales	≤ 30 Years (N=16)		31 to 40 Years (N=25)		> 40 Years (N=27)	
	Mean	SD	Mean	SD	Mean	SD
TI	53.68	7.54	51.20	10.20	50.48	7.07
TO	54.50	7.84	47.36	9.71	46.96	9.32
Es	55.12	8.21	51.52	7.51	51.96	9.02
Co	53.68	9.99	54.92	8.27	47.88	8.44
Au	54.93	7.93	57.76	6.08	55.74	6.33
Am	47.43	7.47	53.22	9.10	55.29	7.18

Table 4.19

Comparison of the OPI Mean Standard Scores and Standard Deviations of Major Seminar Participants by Age Range

<u>OPI</u> Scales	≤ 30 Years (N=13)		31 to 40 Years (N=31)		> 40 Years (N=14)	
	Mean	SD	Mean	SD	Mean	SD
TI	53.69	4.90	47.96	6.63	53.50	9.92
TO	43.76	8.75	43.35	7.53	50.28	10.12
Es	53.53	6.66	53.00	6.14	57.28	7.55
Co	50.69	9.07	50.77	8.39	53.64	11.20
Au	53.76	8.73	54.64	7.85	53.57	6.57
Am	45.15	8.60	50.77	10.17	53.71	6.66

Table 4.20

Comparison of the OPI Mean Standard Scores and Standard Deviations of Summit Seminar Participants by Age Range

<u>OPI</u> Scales	≤ 30 Years (N=12)		31 to 40 Years (N=50)		> 40 Years (N=22)	
	Mean	SD	Mean	SD	Mean	SD
TI	48.83	9.86	52.20	7.49	53.50	7.40
TO	44.16	8.22	49.92	8.57	47.86	9.47
Es	47.41	10.23	52.06	10.77	54.56	7.82
Co	49.83	9.12	52.50	9.57	51.00	10.51
Au	54.00	8.07	55.66	8.08	55.90	7.21
Am	52.41	9.46	53.00	8.78	53.50	12.06

measurable growth (using the OPI) on selected personality constructs.

With the single exception of the Estheticism scale, students with more than 30 hours of previously-earned college credit in every age range achieved higher mean standard scores on each scale of the OPI than did those students with less than 30 college credit hours. Again, it appears that prolonged exposure to college study made a difference in measurable growth in personality development among these students. Males in every age range had the highest mean standard scores in Theoretical Orientation as did females in Estheticism. There was therefore a greater tendency for men in all age groups to be more

scientifically oriented while women were more concerned with artistic activities and stimulation. Only in the 41-or-over age group was a specific gender group predominant in regard to having the highest mean standard scores on each scale. In this category, females scored higher than males on five of six OPI scales. Research has indicated that women grow more achievement oriented and aggressive than men, as they grow older (Lipman-Blumen & Leavitt, 1977). Mean standard scores and standard deviations are compared at each age range, in relation to previously-earned college credit hours, for male participants (Table 4.21) and female participants (Table 4.22).

Wilks' Criterion indicates that the overall age effect on the dependent variables has a resulting F-value = 1.58 and an associated significance of 0.0952 (Table 4.7). However, age is proven significant in relation to Altruism ($F = 5.89$) with an associated significance value (0.0033) (Table 4.23) as is the total model (Table 4.24).

Summary and Discussion

An analysis of data collected for Objective 3 finds that while age is not significant in relation to the total model, it is significant in relation to Altruism at a level of 0.0033. Altruism is reflected in an orientation towards concern for the welfare of others. In general, the highest scores were measured among participants in the 31 - 40 year

Table 4.21

Comparison of the OPI Mean Standard Scores and Standard Deviations of Male
Participants by Previously-Earned College Credit Hours Within Age Range

OPI Scales	Males < 30 Years (N=10)				Males 31 - 40 Years (N=38)				Males > 40 Years (N=14)			
	< 30 Cr.Hrs.		> 30 Cr.Hs.		< 30 Cr.Hrs.		> 30 Cr.Hrs.		< 30 Cr.Hrs.		> 30 Cr.Hrs.	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
TI	49.66	9.07	52.71	7.15	52.20	6.76	52.33	8.00	50.66	7.77	48.00	9.24
TO	48.66	4.72	50.57	7.74	50.00	7.79	54.55	7.70	49.33	12.60	48.00	9.27
Es	51.66	6.65	51.85	8.07	50.95	10.46	49.11	10.64	54.44	9.51	46.20	11.32
Co	52.00	16.82	55.57	5.25	51.80	8.97	55.22	9.74	49.55	9.93	47.60	9.39
Au	50.00	7.81	57.14	8.55	52.60	8.22	58.77	6.74	54.55	8.70	54.80	8.55
Am	45.33	5.85	47.00	9.93	53.90	7.58	59.38	7.11	48.88	7.76	48.80	13.76

Table 4.22

Comparison of the OPI Mean Standard Scores and Standard Deviations of Female
Participants by Previously-Earned College Credit Hours Within Age Range

OPI Scales	Females ≤ 30 Years (N=31)				Females 31 - 40 Years (N=68)				Females > 40 Years (N=49)			
	≤ 30 Cr.Hrs.		> 30 Cr.Hrs.		≤ 30 Cr.Hrs.		> 30 Cr.Hrs.		≤ 30 Cr.Hrs.		> 30 Cr.Hrs.	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
TI	49.33	8.18	55.31	6.84	48.82	9.33	51.35	7.04	51.00	7.96	55.94	6.62
TO	44.93	10.15	49.81	10.27	44.95	9.07	46.64	7.00	45.56	9.39	51.26	7.51
Es	50.73	9.23	54.25	9.51	52.55	7.98	54.60	7.05	53.86	7.57	56.00	7.93
Co	48.60	9.40	52.62	9.26	51.62	9.07	52.75	8.51	51.16	10.63	49.84	9.06
Au	52.06	8.61	55.93	7.12	56.37	7.23	55.27	7.70	51.13	6.57	56.10	5.75
Am	47.20	9.67	50.12	8.05	50.30	9.38	49.92	9.29	55.00	8.48	57.26	7.81

Table 4.23

MANOVA of Altruism Standard Scores in Relation to
Process Step, Sex, Age and Occupation Category

Source	df	Sum of Squares	F-value*	PR > F
Process Step	2	304.90	2.02	0.1356
Sex	1	41.95	0.56	0.4569
Age	2	888.29	5.89	0.0033
Occupation Category	1	497.62	1.32	0.1737

*p < .05

Table 4.24

MANOVA of Altruism Scores in Relation to the Total Model

Source	df	Sum of Squares	Mean Squares	F-value*	PR > F
Between Groups	27	4290.28	158.89	2.11	0.0022
Within Groups	182	13734.20	75.46		
Total	209	18024.48			

*p < .05

age range. The largest percentage of adult learners fall in this age range (Aslanian & Brickell, 1988). Increasing numbers of adults are returning to college, changing

careers in mid-life, trying out new lifestyles (Schlossberg, 1978). They experience more life changes and have greater pressures to learn in order to cope with these changes. These include career and job change which is the greatest factor in causing adults to pursue education. The collegiate experience creates a new psychosocial task for this highly motivated age group and therefore the potential for growth is greater. Previous research has shown that there are significant differences in psychological, socio-emotional and behavioral characteristics with older student groups (Kasworm, 1982). Whitbourne and Weinstock (1979) point out that increasing numbers of adults of all ages are making major changes in their lives. As such, development can be seen as a lifelong process and that chronological age alone cannot be a determinant of an individual's status.

An inclination towards dealing with complex issues in a logical, analytical and critical way appears to be the hallmark of the majority of adult learners in this study. This tendency is stronger among those who are older and thus have needed to cope with life experiences for a longer period of time. Those in the 31-to-40 age group have heightened expectations of what they can achieve, and this makes them likely candidates for personal growth. In relation to process step, no one age group consistently scored higher on the OPI. However, participants at every

age category with more than 30 previously-earned college credit hours achieved higher OPI scores than those with less than 30 previously-earned college credit hours.

Middle-age range participants (31 - 40 years) had a larger percentage of sufficiently high OPI scores on Theoretical Orientation, Complexity, and Autonomy for the essence of the definition to apply as did younger (30 years or less) participants on Thinking Introversion and older (41 years or more) on Altruism.

Objective 4. To determine if there is a significant difference in the level of intellectual, social and personal development, as measured by the Omnibus Personality Inventory between adult learners, as delineated by occupation category, enrolled in a competence-based liberal arts bachelor's degree program.

Objective 4 addresses the developmental progression of adult learners employed in business-related professions and those in all other categories who are enrolled in the Discovery Workshop, Major Seminar and Summit Seminar. The "Other" classification includes participants employed in technical, science, arts and social service related occupations. Examples of occupation titles for participants in the business-related professions include: account executive, bank clerk, data processing manager, marketing manager, production manager, purchasing agent, retail store owner, sales clerk, and security analyst. Among those in the "Other" category, some occupation titles are: air-traffic controller, artist, dancer, flight

attendant, hospital chaplain, journalist, legal statistician, mechanical maintenance worker, nurse, and police detective.

Previous studies have shown that adults do not learn for the sheer pleasure of learning but rather because they want to use the knowledge gained. Adults point to changes in their lives as reasons for learning. More than half of all transitions motivating adults to pursue learning are career transitions. Business-related fields of study compose 35% of all areas selected by adult learners. Occupational topics dominate adult learning because occupational matters dominate adult living (Aslanian & Brickell, 1988).

The vast majority of participants in this study are in business-related occupations. Yet results of the study indicate that those not in business-related occupations tended to have higher mean standard OPI scores. This may reflect a greater willingness on members of this "other" group to expose themselves to the versatility and adaptability offered by the liberal arts. Heath (1980) provides insights to the importance of the liberal arts and the production of values which are consistent with the development of persons as humanists rather than as technicians. While it has been shown that most adults pursue learning as a vehicle to advancement in their profession, it may very well be that those adults in

scientific, artistic or social service-oriented fields (i.e. non-business-oriented occupations) may have a greater appreciation of and may be more likely to benefit from exposure to liberal learning and thus demonstrate more significant developmental growth.

In the present study, no significant difference in mean standard OPI scores among participants in the two occupation categories was measured. Therefore, the hypothesis that mean standard scores on each of the six scales should differ as delineated by occupation is not proved.

However, further analysis reveals that participants in the "Other" classification have higher mean standard scores than those in the Business Contact and Business Operations category in every scale except Altruism. The difference between the two categories on Altruism is 1.003. Mean standard scores and standard deviations for occupation categories are reported in Table 4.25.

Similarly, an analysis of the percentage of scores equal to or greater than 60, indicating a measure of development on each scale, illustrates that participants in the "Other" category have a higher percentage of scores at or over 60 on each OPI scale, except Theoretical Orientation, than do those in the Business Contact and Business Operations category. Thus, while those participants employed in business-related professions might

Table 4.25

Comparison of the OPI Mean Standard Scores and Standard Deviations of Participants by Occupation Category

<u>OPI</u> Scales	Business Contact & Business Operations (N=151)		Other (N=59)	
	Mean	SD	Mean	SD
TI	50.89	7.91	52.94	8.06
TO	47.52	9.62	49.25	7.45
Es	52.28	8.31	54.01	9.64
Co	51.06	9.69	53.27	8.18
Au	54.72	7.54	57.10	6.87
Am	52.44	8.64	51.44	10.80

be seen as logical, analytical and critical in their approach to problems and situations according to these findings; conversely, those in non-business related occupations demonstrate a likelihood to be more open, artistic, tolerant, non-authoritarian, and affiliative. Table 4.26 presents a comparison, between the two job classification categories, of scores on the OPI scales equal to or greater than 60.

In both occupation categories, females have higher mean standard scores than men on the Estheticism scale. However, mean standard scores for males are higher than those for females on five scales in the Business Contact

Table 4.26

Comparison of the OPI Standard Scores \geq 60 by Occupation Category

<u>OPI</u> Scales	Business Contact & Business Operations (Total N=151)		Other (Total N=59)	
	N	%	N	%
TI	26	17.21	13	22.03
TO	19	12.58	4	6.77
Es	29	19.20	17	28.81
Co	29	19.20	15	25.42
Au	36	23.84	21	35.59
Am	36	23.84	18	30.50

and Business Operations classification and on four scales in the "Other" classification (Table 4.27).

Participants in the "Other" classification consistently have higher mean standard scores at all three age-range categories on five of six scales. Only in the Altruism scale do "Other" classified participants in the 30 - 40 year and 41-or-over age range have lower mean standard scores than do those participants in the Business Contact and Business Operations category (Table 4.28).

Discovery Workshop participants in the "Other" category have higher mean standard scores on every OPI scale as do Summit Seminar students with the exception of

Table 4.27

Comparison of the OPI Mean Standard Scores and Standard Deviations of Male and Female Participants by Occupation Category

OPI Scales	Business Contact & Business Operations (Total N=151)				Other Occupations (Total N=59)			
	Males (N=44)		Females (N=107)		Males (N=18)		Females (N=41)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
TI	50.90	7.75	50.88	8.01	53.33	6.44	52.78	8.75
TO	50.93	9.33	46.12	9.42	51.38	6.70	48.31	7.65
Es	49.95	9.27	53.24	7.72	52.44	11.45	54.70	8.80
Co	51.97	9.99	50.69	9.59	54.00	7.97	52.95	8.35
Au	55.04	8.14	54.58	7.31	55.72	8.18	57.70	6.23
Am	52.84	8.41	52.28	8.77	53.94	11.39	50.34	10.48

Table 4.28

Comparison of the OPI Mean Standard Scores and Standard Deviations of
Participants by Age Range Within Occupation Category

OPI Scales	Business Contact & Business Operations (Total N=151)						Other Occupations (Total N=59)					
	< 30 Years		31 - 40 Years		> 40 Years		< 30 Years		31 - 40 Years		> 40 Years	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
TI	51.23	7.29	50.24	7.97	51.73	8.26	55.09	8.66	51.90	8.51	53.47	6.88
TO	47.76	9.57	47.36	9.33	47.63	10.29	48.90	10.00	49.48	6.91	49.05	7.02
Es	52.03	7.43	51.77	8.29	53.28	8.94	53.27	12.32	53.25	10.10	55.88	6.76
Co	50.00	8.97	52.56	9.58	49.32	10.13	56.00	9.46	52.58	7.49	52.76	8.67
Au	53.16	8.21	55.48	7.75	54.50	6.66	57.36	7.00	56.77	7.28	57.52	6.38
Am	47.86	8.95	52.62	8.45	55.13	7.64	49.00	8.48	51.93	11.09	52.11	11.93

the Altruism scale. Participants in the Major Seminar, however, have higher mean standard scores in the Business Contact and Business Operations classification on Thinking Introversion, Theoretical Orientation, Estheticism and Altruism. Table 4.29 compares mean standard scores and standard deviations for students in the two occupation categories at each of the process steps.

Occupation category has no effect on the six OPI scales as measured by Wilks' Criterion (Table 4.7) with a calculated F-value = 1.61 and an associated significance (0.1481).

Summary and Discussion

An analysis of Objective 4 finds that occupation category is not significant in relation to mean standard scores of participants on the Omnibus Personality Inventory. Participants in the "Other" category, comprising those employed in technical, science, arts, and social service related occupations, have higher OPI mean standard scores than do participants in the Business Contact and Business Operations category. The openness demonstrated by those in social service or artistic professions may serve these individuals well in relation to their total development as they are exposed to a broad range of liberal arts subjects. In general, men in both categories have higher mean standard scores than do women. Participants in the "Other" occupation category have the

Table 4.29

Comparison of the OPI Mean Standard Scores and Standard Deviations of
Participants by Occupation Category in the Discovery Workshop, Major Seminar
and Summit Seminar

OPI Scales	Discovery Workshop (N=68)				Major Seminar (N=58)				Summit Seminar (N=84)			
	Business		Other		Business		Other		Business		Other	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
TI	50.73	7.57	53.47	10.29	50.91	7.99	49.18	6.33	51.01	8.27	54.03	6.73
TO	48.61	10.21	49.57	7.77	46.29	9.16	45.72	6.49	47.60	9.50	50.37	7.41
Es	51.32	8.15	55.68	8.09	54.65	6.89	52.00	5.83	51.10	19.22	53.68	11.61
Co	51.38	9.03	53.00	9.87	51.27	9.76	52.18	6.52	50.60	10.33	53.86	7.74
Au	55.32	6.95	58.78	5.19	53.91	7.38	55.36	9.05	54.87	8.22	56.65	6.92
Am	51.73	8.06	55.26	9.17	51.19	8.59	46.09	12.06	54.14	9.05	50.96	10.69

highest OPI mean standard scores at all three age ranges. "Other" classified participants also have the highest mean standard scores at the Discovery Workshop and Summit seminar process steps. The highest percentage of OPI mean standard scores at or above 60 on each scale, except Theoretical Orientation, is also found among "Other" classified participants.

Additional Analyses

Significant differences were measured among OPI scores in relation to sex and age, therefore a MANOVA was computed to measure the effects of the interaction of sex and age. Results of this statistic reveal highly significant differences for the interaction of sex and age on the OPI Altruism scale (F-value = 9.66 and an associated significance of 0.0001). Wilks' Criterion indicates that the overall sex-age effect on the dependent variables results in an F-value = 2.14 and an associated significance = 0.0140.

A post-hoc analysis using both the Student-Newman-Keuls Test and Tukey's Studentized Range Test reveals scores for Altruism among females in the over 40 years age range are statistically significantly different at the 0.05 level compared to Altruism scores for females in the under 30 years and 31-40 years age groups (Table 4.30). Older females achieved significantly higher mean standard scores for Altruism on the OPI.

Table 4.30

Student-Newman-Keuls and Tukey's Studentized Range Tests of Altruism for Female Participants by Age Range¹

Age Range	Females N	Mean <u>OPI</u> Std. Score
> 40	49	55.87
31 to 40	68	50.14
≤ 30	31	48.70

¹ p < .05
df = 205
mse = 76.0585

Results from the Student-Newman-Keuls and Tukey's Studentized Range tests on males indicate those in the 31 - 40 year age group have significant differences at the 0.05 level in their scores on the Altruism scale compared to those in the 30 years or under and over 40 years age categories (Table 4.31).

Table 4.31

Student-Newman-Keuls and Tukey's Studentized Range Tests of Altruism for Male Participants by Age Range¹

Age Range	Males N	Mean OPI Std. Score
31 to 40	38	56.50
> 40	14	48.85
≤ 30	10	46.50

¹ p < .05
df = 204
mse = 76.0485

Chapter Overview

This chapter identifies the four research objectives of the current study and presents the results and analysis of the data collection relevant to each. Data were collected related to six scales (Thinking Introversion, Theoretical Orientation, Estheticism, Complexity, Autonomy, and Altruism) on the Omnibus Personality Inventory for 210 adult learners at three distinct process steps (i.e. the point at which they are enrolled) in a liberal arts bachelor's degree program at De Paul University's School for New Learning. The process steps examined are a pre-admission seminar titled the Discovery Workshop, a mid-program research seminar called the Major Seminar, and the Summit Seminar which is taken prior to graduation from

the program. Male and female students in three age ranges (30 years or under, 31-40 years, over 40 years) are enrolled in each of the three process steps. Participants in the study entered the School for New Learning with varying levels of previously earned college credit from a variety of post-secondary educational settings and with work experience in a number of different occupations.

Scores did not vary significantly on the OPI for students at any of the three process steps, however, with higher mean standard scores on Thinking Introversion and Altruism, Summit Seminar students may be construed as having a greater liking for reflective thought and academic activities as well as a tendency to be affiliative and more trusting and ethical in their relations with others than will Discovery Workshop or Major Seminar students. Similarly, Discovery Workshop students might be described as more logical, analytical, and critical in their approach to problems and more disposed to seek out and enjoy diversity and ambiguity than students in the Major or Summit Seminars. In addition, students in the Discovery Workshop show a tendency to be realistic and much less judgmental than students at the other steps. OPI scores for Major Seminar students indicate that they more likely may have diverse interests in artistic matters and a higher level of sensitivity than either Discovery Workshop or Summit Seminar students.

Results indicate that 20-25% of all participants in the Discovery Workshop scored at a level high enough on the Thinking Introversion, Estheticism, Complexity, and Altruism scales of the OPI for the definition of the scale to be applicable to the participant, while 35% achieved that level on Autonomy. Similar levels of scores were measured for Summit Seminar participants on the Estheticism, Complexity, Autonomy, and Altruism Scales. This was not true of Major Seminar participants.

Statistically significant differences were found on the Thinking Introversion and Estheticism scales for sex as an independent variable. Therefore, men may be seen as being less dominated by immediate conditions and situations or by commonly accepted ideas. Whereas, women are more likely to have a high level of sensitivity and response to esthetic stimulation as well as diverse interest in artistic activities. Male participants had higher mean standard OPI scores on Thinking Introversion, Theoretical Orientation, Complexity and Altruism than did females who scored higher on the Estheticism and Autonomy scales. Variances from this result at each process step indicate higher mean standard Autonomy scores among males in the Discovery Workshop and Major Seminar, higher mean standard Altruism scores for females in the Major Seminar, and higher mean standard Thinking Introversion scores for females in the Summit Seminar. With the exception of mean

standard Estheticism scores for males, those participants, both male and female, with more than 30 previously-earned college credit hours at the time they enrolled in the school for New Learning, had consistently higher mean standard scores on the OPI than did those with 30 or less credit hours. Significant percentages of all male and female participants had substantially high OPI standard scores on Complexity, Autonomy, and Altruism for the definition of the scale to apply. In addition, females had significantly high scores on the Estheticism scale.

Statistically significant differences were found on Altruism for age as an independent variable. Participants over 40 years of age more likely have a strong concern for the feelings and welfare of people they meet than do participants under 40. This is particularly true in comparison to those 30 or under. Participants in the 30 or under age range had the highest mean standard scores on the Thinking Introversion and Theoretical Orientation scales as did those in the 31 - 40 year range in Complexity and Autonomy. Estheticism and Altruism mean standard scores were highest for those in the over 40 age group. Males in the over 40 group show an interesting diversion from the norm in comparing scores of those with under and over 30 previously-earned college credit hours. As a group, males over 40 have consistently lower OPI mean standard scores if they entered the School for New Learning with over 30

credit hours.

A substantial number of the participants in the 30 or under age range scored significantly high on the Thinking Introversion, Estheticism, Complexity, and Autonomy scales for the definition of the scales to apply. Similarly, participants 31 - 40 years old scored significantly high on the Complexity, Autonomy, and Altruism scales as did those over 40 years of age on the Thinking Introversion, Estheticism, Autonomy, and Altruism scales.

Scores did not vary significantly on the OPI for students in the two occupation categories, however, participants in the Business Contact and Business Operations occupation category consistently had lower mean standard OPI scores than did all other participants with the exception of scores on the Altruism scale. This one exception is attributed to female participants in the Business Contact and Business Operations category. With few exceptions, participants at each age range have lower OPI mean standard scores if they are in the Business Contact and Business Operations category. Participants in both occupation categories have significantly high scores on the Thinking Introversion, Estheticism, Complexity, Autonomy, and Altruism scales on the OPI for the definition of those scales to apply.

Post-hoc analysis of the MANOVA results using both the Student-Newman-Keuls test and Tukey's Studentized Range

Test reveals significant differences on the Altruism scale among females over 40 years of age as compared to those 30 or younger and 31-40. Similarly, significant differences on that same scale are found for men in the 31-40 age range as compared to those 30 or younger and 40 or older.

Chapter V provides a summary of the study, discussion and conclusions based on the results, and makes recommendations for future research.

CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS, RECOMMENDATIONS

The rationale for this study, review of the related literature, methodology, and data analysis are presented in Chapters I, II, III, and IV. Chapter V presents a summary of the study, discussion, conclusions and recommendations relating to development of adult learners as well as for future research on adults enrolled in non-traditional and traditional bachelor degree programs.

Summary of the Study

Purpose and Objectives

The major purpose of this study was to investigate the developmental effect of an experiential, competence-based, liberal arts bachelor's degree program on adult students. This study addresses four objectives:

1. To determine if a significant difference exists in the level of intellectual, social and personal development between adult learners at entrance, mid-point, and completion of a competence-based, liberal arts bachelor's degree program.
2. To determine if a significant difference exists in the level of intellectual, social and personal development between male and female adult learners enrolled in a

competence-based, liberal arts bachelor's degree program.

3. To determine if a significant difference exists in the level of intellectual, social and personal development between adult learners, as delineated by age, enrolled in a competence-based, liberal arts bachelor's degree program.

4. To determine if a significant difference exists in the level of intellectual, social and personal development between adult learners, as delineated by occupation category, enrolled in a competence-based, liberal arts bachelor's degree program.

Method

This study examined the development of adult learners along specific personality constructs using the Omnibus Personality Inventory (OPI) (Heist & Yonge 1962, 1968). They constructed the OPI to assess selected attitudes, values, and interests chiefly relevant in the areas of normal ego functioning and intellectual activity. Almost all of the dimensions included in the inventory were chosen either for their particular relevance to academic activity or for their general importance in understanding and differentiating among students in an educational context.

Specifically, this study focused on six of the 14 OPI scales. Scales selected were: a) Thinking Introversion (TI) characterized among high scorers by a liking for reflective, abstract thought and broad academic interests particularly in the humanities, b) Theoretical Orientation

(TO) measuring interest in science, scientific activities and use of scientific method, c) Estheticism (Es) documenting a diverse interest in artistic matters and activities, d) Complexity (Co) reflecting an experimental orientation rather than a fixed way of viewing and organizing phenomena, e) Autonomy (Au) illustrated in non-authoritarian thinking and a need for independence and f) Altruism (Am) demonstrated by the willingness to affiliate and to establish trusting and ethical relations with others.

In addition to the OPI, an instrument was developed by the researcher to collect the demographic data necessary to address the four research objectives. The seven item questionnaire provides information on gender, age, previous post-secondary education, previously earned college credit hours, type of credit hours earned, occupation category, and occupation.

The demographic survey and the OPI were administered in person by the researcher from June 1986 to April 1987 to students enrolled in the Discovery Workshop, Major Seminar and Summit Seminar process steps at De Paul University's School for New Learning. Participation was totally voluntary and was offered to 242 students of which 211, or 87.1%, accepted. Of the 211 participants, responses from 210 were usable for this study.

Conceptual Base

The conceptual framework for this study is Heath's Model of Maturity. Heath (1978) proposed a model of healthy growth which encompasses the life span and is not limited to some specific chronological age period. Heath's theory is comprehensive in that it includes all of the principal types of maturing and immaturing effects that may occur during the process of becoming educated. It has generality as it applies to persons of both sexes and different ethnic, social class and socio-cultural backgrounds. Finally, it is value-free as it has no preconceived notions nor makes any judgments about persons from differing backgrounds in relation to the traits they exhibit which determine personal growth or maturity.

While most developmental theories are selective in focus, emphasizing a particular age range or a particular type of growth, Heath takes the broad perspective, providing a conceptual scheme which includes and orders the many changes which occur as a person matures. Widick, Parker and Knefelkamp (1978) state that his work gives objective meaning to the development of the whole person.

The Model of Maturity specifies four self systems (or sectors of the individual) and five growth dimensions. Self systems are: a) intellect, b) values, c) self-concept, and d) interpersonal relationships. They relate to four growth dimensions: a) becoming more able to represent

experience symbolically, b) becoming allocentric or other-centered, c) becoming integrated, and d) becoming stable and autonomous. Maturation, according to Heath, involves movement along the growth dimensions in each of the four areas of the self.

The research of other developmental theorists provides a substantial body of parallel evidence in examining Heath's model and findings in a broader context. For example, Perry's (1970) multiplicity stage describes intellectual development as charting the shift to more symbolic and allocentric thought, while his relativism stage describes growth not unlike Heath's (1977) dimension focusing on more integrative thought.

Changes in the value sector described by Heath are generally confirmed by the work of Kohlberg (1969). Similarly, shifts in self-concept and interpersonal orientation in Heath's model are delineated by Loevinger (1976) and Loevinger, Wessler, and Redmore (1970). Chickering's (1969) work has definite similarities with Heath's model. While Heath describes the symbolization of interpersonal relationships, Chickering addresses social competence. Heath's model addresses allocentric values and allocentric relationships; Chickering's theory emphasizes humanizing of values and tolerance of others. Integration of self-concept and integration of values in the Model of Maturity can be favorably compared to establishing identity

and personalizing of values in Chickering's vectors of development. However, although there are convergent parallels among the work of Heath and Chickering, there are also differences. Most significantly, Heath's study differs from Chickering in that it suggests that the development of stable and autonomous values, relationships and self-concept typically occur in post-college years. Heath's data tend to be supported by studies of adulthood (Levinson, 1978).

The following observations provide a summary of the data analysis gathered for this study.

Findings: Process Steps

There was no statistically significant evidence that developmental growth along the personality constructs reflected by the OPI scales occurred as students progressed through the degree program in the School for New Learning. For example, students entering the program achieved higher mean standard OPI scores on four scales than did students completing the program.

Discovery Workshop students demonstrated a greater tendency to be experimentally oriented. They would prefer to explore alternative methods to solving problems and are opposed to following strict guidelines. They are non-authoritarian in thinking and find that they have a need for independence. Summit Seminar students tend to be more affiliative. They are more apt to work toward an

atmosphere of trust in their day-to-day contacts with other individuals and will likely behave ethically as well.

Both Discovery Workshop and Summit Seminar students demonstrate a tendency to have interest in a broad range of academic areas. However, thought processes among students in these two groups differ slightly with Discovery Workshop students more likely to prefer reflective, abstract thinking and Summit Seminar students more likely to think logically and analytically and to use the scientific method in solving problems.

The two ends of the spectrum are represented by the Discovery Workshop and Summit Seminar student. Major Seminar students, those approximately at the mid-point of the degree program, are an anomaly as illustrated by the results of this study. Their single developmental distinction is the tendency to be more concerned with esthetics and with issues which reflect an artistic orientation.

Findings: Gender

Males demonstrate a statistically significant orientation towards scientific matters in comparison to females in this study. They are more likely to be involved in science and scientific issues and to use the scientific method in problem solving. In addition, there is a greater probability that males will be experimentally oriented in observing and ordering phenomena than will females.

Diverse interests in artistic matters and activities and a high level of sensitivity and response to artistic stimulation are statistically significant among females. In addition, both males and females show a tendency, albeit not proven statistically, to be independent of authority as traditionally imposed through social institutions, to oppose infringements on others' rights, to be realistic, and to be less judgmental. Also, a concern for the feelings and welfare of others is evident among both males and females in this study.

Mean standard OPI scores among males were highest at the Discovery Workshop step on four of six scales (Thinking Introversion, Theoretical Orientation, Autonomy and Altruism) and at the Major Seminar step on two scales (Estheticism and Complexity). Female participants had their highest mean standard OPI scores along four scales (Thinking Introversion, Complexity, Autonomy and Altruism) at the Summit Seminar step. Theoretical Orientation and Estheticism mean standard OPI scores among females were highest at the Discovery Workshop and Major Seminar steps respectively. As such, it appears that females in this study were more likely to grow along the personality constructs represented by the OPI scales than were males, and that males were at a higher level of personality development than were females at the point of entering the degree program.

Findings: Age-Range

While mean standard scores on the OPI were not found to be statistically significant in relation to age, older females (41 years of age or older) and middle age range males (31-40 years of age) demonstrate a statistically significant orientation towards being affiliative persons and trusting and ethical in their relations with others. As compared to their peers in other age groups, they are much more likely to be aroused by a speaker's description of unfortunate conditions in a locality or country, to serve as members of a committee in carrying out some activity or project, and to believe that a strong person can show emotions and feelings and that it is wrong to try to circumvent the law.

In general, participants in the middle age range (31-40 years) illustrated a greater tendency to take a chance on something without knowing whether it will actually work. The likelihood is higher with this group that they might experiment with new ideas and undertake projects about whose outcome they have no idea. The unfinished and imperfect holds greater appeal for them than the completed and polished, and they believe that for most questions there is more than one right answer. In addition, they are not totally convinced that one must always follow the rules and are not in favor of strict enforcement of all laws.

Older participants (41 years-of-age or older) have demonstrated a higher level of sensitivity to artistic matters. They would most probably enjoy listening to poetry, looking at paintings, sculpture and architecture, collecting prints, and reading about artistic and literary achievements. They have most likely attempted to write poetry, and are fascinated by the effect of sunlight on objects and scenes.

Those in the youngest age range (30 years-of-age or under) are more concerned with the theoretical issues with which one is confronted and may more likely examine their own motives and reactions as well as question teachers' statements and ideas. Furthermore, they show an interest in reading about science, and like to speculate about problems which have challenged the experts. Original research work is interesting to them and they like looking for faulty reasoning in an argument. Lastly, they prefer "idea" people to practical people.

Findings: Occupation Category

While Occupation Category is not proven to be statistically significant in relation to mean standard scores on the OPI, it is evident that development along the personality constructs represented by the OPI scales is greater for those in the "Other" classification (participants employed in technical, arts and social service related occupations) than for those in the Business

Contact and Business Operations category. Clearly, participants working in fields other than business show a greater tendency to study and analyze their own motives and reactions and would more likely discuss the causes and possible solutions of social, political, economic or international problems. They enjoy working in a profession which requires much original thinking and are interested with articles or books that deal with new theories and points of view within their field of interest.

The evolving nature and unfinished quality of concepts, ideas, and tasks is also appealing to those not engaged in business. They do not want to conform to a set schedule and are attracted to new and strange places. They want to show their individuality and originality in their work.

The "Other" classified participant most likely feels that society puts too much restraint on the individual and that unquestioning obedience is not a virtue.

When compared to those in the "Other" occupation category, participants in the "Business Contact and Business Operations category show no significant tendencies based on their OPI mean standard scores, with the exception of the fact that their scores might reveal a modest orientation towards logical thinking and an appreciation for that which is esthetically pleasing.

Discussion

In view of the results of this study, this discussion considers major findings regarding: (1) developmental growth of adults while enrolled in the School for New Learning and (2) the applicability of Heath's Model of Maturity in describing personality development among this population of adult learners in De Paul University's School for New Learning.

Development from Discovery Workshop to Summit Seminar

Each new experience with which adults are confronted adds an additional dimension to their knowledge, skills and attitudes. Contact with other persons exposes individuals to a spectrum of personalities, speech patterns, opinions and viewpoints. One learns how to react to others, how to respond to them, how to elicit a response, how to motivate others and what is motivating to oneself. Changes and growth occur as a result of this activity. Whitbourne and Weinstock (1979) described this as a common theme that lies beneath the many changes that occur within and around each adult: the individual's own unique way of relating to people and events, which is determined by the particular characteristics that form the "self."

As an active participant in an educational setting, the exposure to new experiences enhances one's development. As an individual becomes involved in learning, one gains new insights, makes transitions, becomes adept at coping

with the rapid social changes experienced in a pluralistic society. Knox (1977) speaks of the ability of adults to combine contemplation and action, thus resulting in development. In his view, contemplative knowledge comes both from perspective on the experience of others and from introspection regarding one's own experience. Accordingly, knowledge (including self-knowledge) results from active participation in the known, reinforced by contemplative knowledge. In other words, development results from the orderly and sequential changes in characteristics and attitudes that adults experience over time. Earlier characteristics help shape subsequent characteristics.

Developmental changes occur over time, but few occur as a result of time. A change in activity or outlook typically evolves from gradual alterations of physical condition, societal expectations, and personal values. Personality changes in particular tend to be gradual modifications of basic ways of functioning, not abrupt changes in the kind of person an individual is (Knox, 1977).

The participants in this study were all students in The School for New Learning. Those in the Discovery Workshop shared the common experience of starting anew in a program of study which provided the opportunity to assess one's competence relating to the liberal arts and sciences and the world of work. Similarly, those in the Summit

seminar had completed the necessary competences and were assessed as having achieved the requirements of the baccalaureate degree.

Discovery Workshop students were at a search stage in regard to finding an appropriate academic program within which they might be able to complete the requirements for their bachelor's degree. Their motivations were varied ranging from personal satisfaction to career advancement. Few, if any, indicated personal growth as a motivator in enrolling. They were attracted to the non-traditional nature of the degree program. The fact that credits for previous life and work experiences might be assessed as acceptable towards meeting degree requirements was an incentive. The competence-based curriculum (which also emphasized the basic knowledge learned through more traditional curriculums in the liberal arts) provided greater flexibility in adapting to the lifestyle demands of the adult learner.

Those in the Summit Seminar were at the last step in their degree program before reaching their goal of earning the baccalaureate degree. They had been exposed to course work which allowed them to develop their research skills. This has been achieved in a concrete way through their participation in 1) the "externship," an independent learning project in which the student uses the skills of formal learning, gained in an academic setting, to learn in

a field setting; 2) the "Major Piece of Work," a learning project which applies theories and concepts to investigate and/or solve a particular problem; 3) the "Major Seminar," in which they learn to use inquiry methods found in the academic disciplines and undertake a specific research project focusing their attention on the methodology used rather than on content; 4) establishment of a "committee" (not unlike that created in graduate studies) to give advice as one progresses through the degree program.

In addition, Summit Seminar students had experienced instruction in many forms, including active exposure to case studies, role playing, site visitation, practice with equipment, presentations by guest speakers and other students, debates, film and other media, active encouragement of student participation, projects designed to allow demonstration of competence, and development of a relationship with an academic mentor.

As adult learners, the Summit Seminar students had experienced many demands on their time and many outside influences. Most significantly, the challenge of maintaining a balance between their personal life (family responsibilities), professional life (work responsibilities) and academic life (coursework responsibilities) adds a unique dimension to their role as a student.

Lastly, Summit Seminar students had successfully

completed competences identified by the School for New Learning as essential in defining the "educated adult," (see Appendix D).

Despite their participation in this program, the results of this study do not provide resounding evidence that statistically significant developmental growth among adult learners is related to exposure to the liberal arts in a competence-based program of study. The program of study at the School for New Learning provided to the adult learners an ideal academic experience combining both theoretic knowledge (as defined in traditional liberal education) and enhancement of skills, attitudes and abilities which enable one to use knowledge effectively (as found in competence-based education). However, the expected outcome of significant developmental growth among students enrolled in this program has not been proven in this particular study.

Statistically significant growth along specific personality constructs was not demonstrated by students enrolled in the Summit Seminar. This does not mean that they did not develop as individuals. In fact, as has been described previously, they exhibited tendencies which expose the spectre of change in themselves as persons. However, the level of change measured among Summit Seminar participants through use of the OPI was not significant when compared to students in the Discovery Workshop.

In analyzing the results, it is important to note the differences between measuring change among traditional-aged college students and adult learners. In a traditional collegiate setting, students are approximately the same age when they begin their studies. Although their personal and intellectual experiences may have differed prior to enrolling, developmentally they are a much more homogeneous group than are adult learners.

Students entering the School for New Learning represent a broadly diverse population. Some had not previously been exposed to higher education, others had had a wide variety of educational experiences. They entered the School for New Learning with an amazing array of career experiences, some were clerical workers, others in a trade, still others business executives. The level of responsibility among the group differed greatly. They ranged in age from young adult to senior citizen. Their life stories had remarkable diversity due to their chronological age. There were extreme differences among their life experiences (whether complex or simple).

These differences, while desirable in creating a dynamic academic atmosphere, complicated the dynamic of measuring growth from process step to process step. While each cohort group (Discovery Workshop, Major Seminar, Summit Seminar) was discrete, the volatility within each group created a major methodological hurdle in measuring

change. Lastly, due to each student's ability to meet the competency requirements in differing ways (credit for life experiences, etc.), the period of time enrolled in the school for New Learning differed greatly. Thus, their exposure to the program of study at SNL varied and as such the effects of being enrolled in the program may have been diluted for some, enhanced for others. These inconsistencies also created an imperfect climate for the present study.

Heath's Model of Maturity and its Relationship to Growth Among School for New Learning Students

The Model of Maturity provides a set of categories which order the principal hypotheses claimed by theorists to define growth. Winter, McClelland and Stewart (1981) discovered that the theories relating to growth which have been espoused over the decades have a direct relationship to the goals and outcomes of a liberal arts education. These have included: 1) thinking critically or possessing broad analytical skill, 2) learning how to learn, 3) thinking independently, 4) empathizing, recognizing one's own assumptions, and seeing all sides of an issue, 5) exercising self control for the sake of broader loyalties, 6) showing self-assurance in leadership ability, 7) demonstrating mature social and emotional judgment; personal integration, 8) holding egalitarian, liberal, pro-science, and antiauthoritarian values and beliefs, and

9) participating in and enjoying cultural experience (pp. 12-13).

One model of adult development has made assumptions that as a person matures 1) self concept moves from that of a dependent personality toward one of being a self-directing human being, 2) one accumulates a growing reservoir of experience that becomes an increasing resource for learning, 3) readiness to learn becomes oriented increasingly to the developmental tasks of one's social role, and 4) one's time perspective changes from that of postponed application of knowledge to immediacy of application (Knowles, 1970).

In turn, Chickering (1981) has integrated major concepts from Knowles in designing a scheme of characteristics identifying the healthy person, healthy environment, and appropriate educational responses. Chickering's definition of the healthy person corresponds well to Heath's (1977) model of the mature personality.

The Omnibus Personality Inventory (OPI) was selected for use in this study due to the comparability of the six scales used as selected personality constructs with the growth dimensions defined by Heath in his Model of Maturity.

Heath (1980) defined his Model of Maturity through descriptions of the mature person adapting each of the developmental dimensions. Symbolization is demonstrated by

the maturing person's increasing ability to accurately represent experience; by becoming more reflective and understanding, more acutely aware of oneself, one's values and one's relationships with other persons. Similarly, high scorers on the Thinking Introversion and Altruism scales of the OPI demonstrate a liking for reflective thought and are genuinely concerned with others.

The allocentric individual's thinking becomes increasingly less organized by one's needs and emotions and increasingly more realistic, objective, logical and analytic. The viewpoints of others are understood, as is the way one is regarded by others. There is a greater tendency to be accepting and tolerant in relationships, while one's values become more other-centered. In like form, those best described by the characteristics defined by the Theoretical Orientation, Complexity, Altruism and Autonomy scales of the OPI have a preference for dealing with theoretical concerns and for using the scientific method, reflect a flexible orientation, have strong concern for the feelings and welfare of others and are more tolerant of others viewpoints.

Integration allows one's intellectual interests to deepen, become more differentiated and complex. Thought becomes more relational and synthetic and self-concept more congruent with the thoughts of others. There is an increasing consistency of values held and a greater ability

to create collaborative, cooperative and intimate relations with others. Those characterized by the Thinking Introversion, Complexity and Estheticism scales of the OPI express interests in a broad range of ideas in a variety of areas, are fond of novel situations and ideas, and possess a high sensitivity and response to creative stimulation.

A maturing person's intellectual skills become more stable, less resistant to disruption by stress. Once disturbed, intellectual efficiency can recover rapidly. A sense of identity develops; ideas about oneself, values held, and relations with others become more stable and enduring. High Theoretical Orientation and Altruism scores on the OPI demonstrate a logical, analytical approach to problems and are affiliative, trusting and ethical in relations with others.

Autonomy affords the ability to use one's intellectual skills in many different situations while having more control of oneself. Views of self are not readily altered by the views of others. The values held can be defended and are not as dependent upon others. Similarly, thinking is less dominated by immediate conditions and situations or by commonly accepted ideas and there is greater tendency to be independent of authority among high scorers on the Thinking Introversion and Autonomy scales of the OPI.

Heath (1980) set forth some educational principles to further maturing. It is possible to establish a direct

relationship between these principals and aspects of the curricular design of the baccalaureate degree program of the School for New Learning.

1) Symbolization is enhanced by clarifying expectations and teaching how to reflect about growth, by providing models of goals, by contrasting, confronting and challenging. These, too, are the goals of the Discovery Workshop.

2) To further allocentricism, a climate of trust must be created which encourages non-defensive and open personal relationships, an orientation toward the concerns of others, as well as the opportunity to assume alternative roles. The establishment of the SNL committee during the Foundations of New Learning process step fosters such an environment.

3) Consistently encouraging active involvement in the process of learning increases integration, as does reflection on experiential types of learning, and confrontation with complex and contextual problems that require synthesis, analysis, induction and deduction. The Major Seminar provides the appropriate setting for such goals.

4) To help stabilize growth, one requires constant externalization and correction by action, allows the consequences of one's decisions and actions to be experienced, and appreciates and affirms strengths. This

is achieved by the Major Piece of Work required for the bachelor's degree at SNL.

5) Autonomy is fostered by expressing realistic faith in a person's capacity to be responsible, encouraging one's assumption of responsibility for their own growth, progressively reducing structure and expectations, and educating for transferability by testing and applying what is learned in increasingly varied situations. The Externship, an independent learning project, promotes such growth.

Heath (1980) stated that emerging knowledge about the qualities that define adults who are effective in their various adult roles suggests that the attributes necessary to be an effective adult are richly complex, multi-faceted, and involve values, interpersonal qualities, attitudes towards oneself, as well as cognitive skills and knowledge. Adult effective utilization of intellectual talent and knowledge is dependent upon the development of other non-cognitive qualities like self-confidence, interpersonal maturity, and autonomy. Psychological maturity has been found to be the most powerful predictor of subsequent adult effectiveness and liberal educational philosophers have identified attributes of maturity as the principal outcomes of a liberal education.

There is no clear-cut evidence that students enrolled in the School for New Learning who have advanced from the

Discovery Workshop to the Summit Seminar have demonstrated increased maturity as defined by Heath (1980). However the growth dimensions, identified by Heath (1978) as part of the developmental process which occurs as a person matures, can be attributed to students at each of the three process steps as measured by the OPI in relationship to specific personality constructs.

Discovery Workshop students demonstrated the greatest tendency to be autonomous. In relation to Heath's model, Discovery Workshop students are more likely to respond selectively and deliberately to pressures from the outside and will most likely be successful in learning to transfer their previously learned skills, knowledge and abilities to other situations. While Summit Seminar students also demonstrated this tendency, as a group their mean standard Autonomy score on the OPI, did not exceed that of the Discovery Workshop group.

At first analysis, this finding is surprising and a bit puzzling due to the fact that the exposure Summit Seminar students had to demonstrating competence through experiential learning would seem to provide significant exposure to situations which would foster one's ability to become more autonomous. Analysis of the data in the present study did not find evidence of such a result. In considering alternative interpretation of the data, what this may seem to point up is that the level of maturity

demonstrated by adult learners entering the program was significantly formed in relation to their ability to be autonomous prior to entrance into the SNL degree program. They already were taking responsibility for themselves and were at an advanced level of maturity, as related to enhanced autonomy, due to their previous life experiences. When one considers that the individual who pursues higher education as an adult has already made a life decision expressing a movement toward taking direction of one's own life, it becomes more understandable that Discovery Workshop students demonstrated this tendency to the degree that they did. This heightened ability to be autonomous was carried through the degree program, but was not necessarily enhanced to a greater degree as a result of being in the program.

In relation to one's intellect, Heath sees the mature person as one who symbolizes experience by being able to evaluate one's own thought, by thinking logically and having the ability to problem-solve systematically and coherently. While Summit Seminar students did not score significantly higher than Discovery Workshop students on the related OPI scales (Thinking Introversion and Theoretical Orientation) for Heath's model to apply; there is evidence that the very nature of the degree program at SNL provides some clues as to why students who were a part of this study might not exhibit significantly increased

growth on these scales.

Prior to enrolling in the School for New Learning, the participants had a variety of educational and work experiences. These previous experiences (and their response to them) were, in large part, a motivating factor to enrolling at SNL. The School for New Learning offered to them an opportunity to "start fresh," where previous academic deficiencies would not stand in the way of earning a baccalaureate degree. The non-traditional nature of the program (based not on disciplinary requirements but rather on demonstration of competence) provided a vehicle for them to approach their education from a new perspective and to utilize their past experiences to earn future credit toward their B.A. degree. In other words, students entering the SNL program were more inclined to earning their degree in a non-traditional way. The developmental tasks that confront traditionally-aged college students when they enter a program of study may not have been present (or at least as crucial) to adult learners entering SNL. Their previous life and work experiences and past opportunities for learning (regardless of how successful they may have been) provided historical perspective and a foundation on which to build in regard to their new learning. Thus, there may not have been as great an opportunity for growth.

A significant amount of self-reflection and assessment is required to enter the SNL degree program. Discovery

Workshop students need to demonstrate their ability to analyze their past learning experiences and to begin to formulate a relationship between that which has occurred previously and the goals to which they will aspire in the future. Heath describes such activity as a way to symbolize one's experience. He defines it as accurate self and interpersonal insight and increased awareness.

Throughout the SNL program, one is challenged to develop a sense of one's self in relation to demonstration of increasingly more complex and specific levels of competence relating to both the liberal arts and the practical demands of life and work. For example, competences associated with communication and human relations range from having the ability to express the values of another culture to being able to employ techniques of forecasting in order to project trends and anticipate the future. Each domain of competence requires students to progress from 1) the level of ability needed to define basic skills, abilities and values, to 2) evaluation and assessment, to 3) analysis, integration and application. It is in this way that the focus of the competence structure in SNL's degree program relates to the outcomes described in Heath's model.

While statistically significant growth was not measured, in the present study, among Summit Seminar students in relation to the personality constructs on the OPI, one must consider that upon entering the SNL program,

they were already at an increased level of development in relation to these constructs. Furthermore, exposure to enhanced growth as a result of being enrolled in the School for New Learning was diluted by their simultaneous involvement in other activities (most notably their professional career) and the relatively short amount of time enrolled in the degree program. Students enrolled in SNL are presumed to have made that choice consciously. Their previous learning experiences led them to a setting which was non-traditional in nature. As such, despite the fact that design of the SNL degree program conforms to outcomes related to those described by Heath in his Model of Maturity, the dynamic necessary to produce demonstrated growth along the dimensions of his model may not have been present among the students enrolled in the program at the time of measurement.

Conclusions

This study provides data regarding personality growth among adult learners enrolled at three distinct steps of a baccalaureate degree program. The major conclusions to be drawn from this study are presented in this section.

Characteristics of the Participants

Students entering the School for New Learning demonstrated a relatively sophisticated level of development at time of enrollment in the Discovery Workshop. Their exposure (in some instances) to previous

college study, to knowledge, skills and abilities gained through their professional careers, and to their life experiences as adults provided a measure of maturity that is not most often evident among traditionally-aged students pursuing a baccalaureate degree. Also, in general, they were highly motivated to enroll in a baccalaureate program and specifically in an experiential, competence-based program. While this motivation may not have been due to an intrinsic need to become more liberally educated (more likely, it was created by the pragmatic demands of advancing in their career), they did possess an openness to learning and thus were not necessarily positioned to react to the dynamic of a new developmental task or crisis.

This is not to say that the Discovery Workshop did not provide challenges to some of the participants. In fact, it was an ideal opportunity for them to begin to assess their past academic strengths and weaknesses, to learn how or to perfect their ability to set realistic educational and career goals, and to develop an awareness of how their previous life, work and educational experiences define their competence at a college-level as determined by the School for New Learning. Ideally, this involvement should have laid the groundwork for change in regard to their personal (and intellectual) development.

In addition, the curriculum required for the baccalaureate degree has a particularly strong emphasis on

the liberal arts, and thus the outcomes and benefits of studying the liberal arts, which have been outlined and defined by educators and philosophers over the centuries, would have been expected to have affected those who were progressing through the SNL degree program.

Factors Affecting the Results

In analyzing the results of the study and with particular emphasis on the methodology used to implement the assessment instrument, it is therefore evident that there are a few factors, heretofore unexpected, which explain why significant growth along specific personality constructs among the participants of the study was not demonstrated.

1.) The level of development, as defined by the OPI, demonstrated by most participants entering the program is near the 70th percentile or above for their cohort group, a relatively high measure of personality assessment.

2.) While the appropriate climate for development was present, the characteristics of the participants presented a less than ideal population for development to be promoted by the interaction between the individual and the environment. This was not due to absence of a developmental element in the curriculum, but rather by the fact that individuals within the groups measured were at varying levels of sophistication and at different frames of reference in relation to their position along a

developmental continuum.

3.) For most participants, the amount of time enrolled in the baccalaureate program was relatively short. This was due to the experiential nature of the program and to awarding of credit for previous life and work experience. Thus, the amount of time enrolled was inadequate for a demonstration of significant personality development. Also, the duration of time in the program differed among the participants so that there was not a consistent measure of progression through the curriculum for the entire population.

4.) Measurement at the Summit Seminar stage, while appropriate in light of the research design, did not allow for significant distance from the educational experience. Thus, the impact of exposure to the liberal arts for the participants of the study, in relation to their transformation to an higher level of development, was not yet evident.

The Effect of Previous Collegiate Experience

While there was not a significant measure of developmental change among participants as a group at each of the process steps, a higher measure of development was demonstrated among those who had completed more that thirty hours of college study prior to being enrolled at SNL. As such, it appears that the intensity of the collegiate experience in regard to having been enrolled in study at a

higher level does effect where the individual is at in a developmental structure.

Differences among Men and Women

Statistically significant differences among men and women in this study indicate that the male participants as a group are more likely to be involved in situations where they can theorize, analyze, be logical and critical in solution to problems than are female participants. In contrast, female participants demonstrated a greater proclivity to have a higher appreciation for the esthetics of a situation than did males. Therefore, they will more likely be active in artistic matters and will have a greater sensitivity and response to theatre, dance, music, film, fiction and poetry, painting and sculpture.

The Effect of Age

Older participants were found to be the most altruistic. Unlike those under 40 years of age who may be more aggressive in pursuing their career goals and who have matured in an atmosphere in which "looking out for number one" was the hallmark of success; those in the 40 or over group are more likely to be concerned about others. Heath (1977) describes this as allocentricism or being other-centered. Perhaps, for members of this group, earning the baccalaureate degree was not as much a credential which allows them to climb higher on the career ladder, but rather a way of enhancing their skills and

expanding their knowledge and abilities to do a better job at whatever they endeavor. As a result, they will be improving the quality of life not only for themselves but for those with whom they have contact.

Differences among Occupation Categories

Participants in non-business related occupations are more open to new perspectives and have a greater affinity to appreciating the benefits of the liberal arts. There is a greater likelihood that they will be humanists rather than technicians. As such, their openness to change is more likely to result in growth.

Recommendations

Based on the conclusions and observations from this study, the following recommendations are made for future research:

1.) It is recommended that additional studies be undertaken to assess personality development among adult learners enrolled in both traditional and non-traditional baccalaureate degree programs. Such studies would provide additional insights into the effect of academic and non-academic aspects of college enrollment and could be utilized to formulate curricular and extracurricular experiences which would enhance the collegiate experience and its outcomes for adults.

2.) Studies of personality development among adult learners as compared to traditionally-aged students should

occur. This study looked exclusively at adult learners, but referred to developmental theories based largely on studies of traditionally-aged college students. Additional research should focus on the differences between these two groups and the interventions which effect their development as students seeking a bachelor's degree.

3.) A longitudinal study of adult learners enrolled in the School for New Learning should be undertaken. By following the same group of students throughout the degree program and as alumni, such a study would measure development over time and the impact of the degree program as it is carried over into post-baccalaureate life.

4.) Future investigations should include interviews with participants to get better first-hand data regarding the student's motivations at the beginning of the program, as they progress through the program, and at the end of the program. Interviews would also be helpful to reinforce (or refute) the objective findings resulting from the use of a standardized assessment instrument.

5.) Researchers should explore differences among men and women adult learners who are enrolled in the School for New Learning. One emphasis could be on the differing impact of a baccalaureate degree program earned as adults on the roles they play in the marketplace and on their ability to function in an increasingly complex society.

6.) Additional efforts should be made to explore

competence-based models of education and their effectiveness in providing adult learners with an adequate exposure to the theoretical bases of the liberal arts.

7.) Researchers should continue to examine experiential learning and attempt to determine whether it enhances the personal development of adult learners.

8.) Additional studies which focus on the age of the adult learner as a factor in demonstrating increased growth should be conducted. As level of maturity does not necessarily have a direct correlation to chronological-age, such research should provide some important insights.

9.) Researchers should analyze the implications of participation in varying career fields as they relate to personality development among adult learners. Do adults employed in certain fields of endeavor have a greater likelihood of demonstrating personal growth?

10.) The effect of prior collegiate academic experiences on developmental tendencies of adult learners pursuing a baccalaureate degree in an experiential, competence-based curriculum should be given further attention. Do previous (traditional) academic experiences enhance or detract from the impact of the non-traditional program?

This study provides a reference point for researchers who wish to explore growth among adult learners. As the numbers of adult learners continue to grow and as new,

innovative programs such as that offered at the School for New Learning are developed, there will continue to be unlimited opportunities to undertake studies which will provide important insights and significant findings for future generations of educators who are committed to advancing the field of higher education.

REFERENCES

- Aslanian, C.B., & Brickell, H.M. (1980). Americans in transition: Life changes as reasons for adult learning. New York: College Entrance Examination Board.
- Aslanian, C.B., & Brickell, H.M. (1988). How Americans in transition study for college credit. New York: College Entrance Examination Board.
- Astin, A.W. (1977). Four critical years: Effects of college on beliefs, attitudes, and knowledge. San Francisco: Jossey-Bass.
- Barton, A.H. (1959). Studying the effects of college education: A methodological examination of changing values in college. New Haven, CT: Edward W. Hazen Foundation.
- Benoist, H., & Gibbon, R. (1980). The competence movement and the liberal arts tradition: Enemies or allies? Journal of Higher Education, 51, 685-692.
- Berg, T.G. (1983). Student development and liberal arts education. NASPA Journal, 21, 9-16.
- Borzak, L., & Hursh, B. (1977). Integrating the liberal arts and preprofessionalism through field experience: A process analysis. Alternative Higher Education, 2, 3-15.
- Boshier, R. (1971). Motivational orientations of adult education participants: A factor analytic exploration of Houle's typology. Adult Education, 2, 3-26.
- Bowen, H.R. (1977). Investment in learning. San Francisco: Jossey-Bass.
- Brownlee, C.G. (1974). A small college looks at competency. Council for the Advancement of Small Colleges Newsletter, 17, 9-12.
- Carp, A., Peterson, R., & Roelfs, P. (1974). Adult learning interests and experiences. In K.P. Cross and J.R. Valley (Eds.), Planning non-traditional programs. San Francisco: Jossey-Bass.

- Chickering, A.W. (1969). Education and identity. San Francisco: Jossey-Bass.
- Chickering, A.W. (1976). Developmental change as a major outcome. In M.T. Keeton & Associates, The modern American college (pp.16-50). San Francisco: Jossey-Bass.
- Chickering, A.W. (1980). Adult development: A workable vision for higher education. In Integrating adult development theory with higher education practice (pp. 1-12). Washington, D.C.: American Association for Higher Education.
- Chickering, A.W., & McCormick, J. (1973). Personality development and the college experience. Research in Higher Education, 1, 43-70.
- Chickering, A.W., & Associates (1981). The modern American college. San Francisco: Jossey-Bass.
- Clark, B.R., Heist, P., McConnell, T.R., Trow, M.A., & Yonge, G. (1972). Disposition to change. Berkeley, CA: Center for Research and Development in Higher Education. (ERIC Document Reproduction Service #ED 069 255).
- Coleman, J.S. (1976). Differences between experiential and classroom learning. In M.T. Keeton and Associates, (Eds.), Experiential learning: Rationale, characteristics and assessment. San Francisco: Jossey-Bass.
- Constantinople, A. (1969). An Eriksonian measure of personality development in college students. Developmental Psychology, 1, 357-372.
- Cross, K.P. (1979). Adult learners: Characteristics, needs and interests. In R.E. Peterson & Associates, Lifelong learning in America (pp. 75-143). San Francisco: Jossey-Bass.
- Cross, K.P. (1981). Adults as learners. San Francisco: Jossey-Bass.
- Dewey, J. (1933). How we think: A restatement of the relation of reflective thinking to the educative process. Lexington, MA: Heath.
- Dewey, J. (1938). Experience and education. New York: Collier.

- Dressel, P.L. (1979). Liberal education: Developing the characteristics of a liberally educated person. Liberal Education, 65, 313-322.
- Dressel, P.L., & Lehman, I.J. (1965). The impact of higher education on student attitudes, values and critical thinking abilities. The Educational Record, 46, 248-258.
- Eldred, M.D., & Marienau, C. (1979). Adult baccalaureate programs. AAHE-ERIC/Higher Education Report No. 9. Washington D.C.: American Association for Higher Education.
- Elton, C.F. (1969). Patterns of change in personality test scores. Journal of Counseling Psychology, 16, 95-99.
- Elton, C.F., & Rose, H. (1968). The face of change. Journal of Counseling Psychology, 15, 372-375.
- Erikson, E.H. (1950). Childhood and society. New York: Norton.
- Erikson, E.H. (1959). Identity and the life cycle. Psychological Issues, 1. New York: International Universities Press.
- Erikson, E.H. (1963). Childhood and society (2nd ed.). New York: Norton.
- Ewens, T. (1979). Analyzing the impact of competency-based approaches on liberal education. In G. Grant & Associates, On competence: A critical analysis of competence based reforms in higher education (pp.160-198). San Francisco: Jossey-Bass.
- Feldman, K.A., & Newcomb, T.M. (1969). The impact of college on students. San Francisco: Jossey-Bass.
- Fry, R., & Kolb, D. (1977). Experiential learning theory and learning experiences in liberal arts education. In S.E. Brooks & J.E. Althof (Eds.), Enriching the liberal arts through experiential learning. New Directions for Experiential Learning, 6, 79-92.
- Gould, R.L. (1972). The phases of adult life: A study in developmental psychology. The American Journal of Psychiatry, 129, 521-531.
- Gould, R.L. (1978). Growth and change in adult life. New York: Simon and Schuster.

- Greenberg, E., O'Donnell, K.M., & Bergquist, W. (Eds.). (1980). Educating learners of all ages. New Directions for Higher Education, 29, vii.
- Havighurst, R.J. (1964). Changing status and roles during the adult life cycle: Significance for adult education. In H.W. Burns (Ed.), Sociological backgrounds of adult education (pp. 7-38). Chicago: The Center for the Study of Liberal Education for Adults.
- Havighurst, R.J. (1973). The history of developmental psychology: Socialization and personality development through the life span. In P.B. Baltes & K.W. Schaie (Eds.), Life-span developmental psychology: Personality and socialization. New York: Academic Press.
- Heath, D.H. (1965). Explorations of maturity. New York: Appleton, Century, Crofts.
- Heath, D.H. (1968). Growing up in college: Liberal education and maturity. San Francisco: Jossey-Bass.
- Heath, D.H. (1973). What is a powerfully liberally educating college? College and University Journal, 12, 12-16.
- Heath, D.H. (1977a). Prescription for collegiate survival: Return to liberally educate today's youth. Liberal Education, 63, 338-350.
- Heath, D.H. (1977b). Maturity and competence: A transcultural view. New York: Gardner Press.
- Heath, D.H. (1978). A model for becoming a liberally educated and more mature student. In C. A. Parker (Ed.), Encouraging development in college students (pp. 189-212). Minneapolis: University of Minnesota Press.
- Heath, D.H. (1980). Implications of human development for undergraduate teaching and learning. Mimeograph.
- Heist, P., & Yonge, G. (1962, 1968). Omnibus personality inventory form F manual. New York: The Psychological Corporation.
- Hursh, B.A., & Borzak, L. (1979). Toward cognitive development through field studies, Journal of Higher Education, 50, 63-78.

- Hutchins, R.M. (1943). Education for freedom. Baton Rouge, LA: Louisiana State University Press.
- Johnstone, J.W.C., & Rivera, R.J. (1965). Volunteers for learning. Chicago: Aldine Publishing Company.
- Jung, C.G. (1964). The basic postulates of analytic psychology. In H.M. Ruitenbeck (Ed.), Varieties of personality theory. New York: Dutton.
- Kasworm, C. (1982). Lifespan differences between student groupings. Journal of College Student Personnel, 23, 425-429.
- Keeton, M.T., & Tate, P.J. (Eds.). (1980). Learning by experience-what, why, how. New Directions for Experiential Learning, 1, 1-8.
- Keniston, K. (1980). Youth and dissent. New York: Harcourt, Brace and Jovanovich.
- Kerlinger, F.N. (1973). Foundations of behavioral research (2nd ed.) New York: Holt, Rinehart and Winston.
- Klemp, Jr., G.O. (1979). Identifying, measuring and integrating competence. In P.S. Pottinger & J. Goldsmith (Eds.), Defining and measuring experience. New Directions for Experience Learning, 3, 41-52.
- Knefelkamp, L.L., & Stewart, S.S. (1983). Toward a new conceptualization of commuter students: The developmental perspective. In S.S. Stewart (Ed.), Commuter students: Enhancing their educational experience. New Directions for Student Services, 24, 61-69.
- Knowles, M.S. (1970). The modern practice of adult education: Andragogy versus pedagogy. New York: Association Press.
- Knott, B. (1975). What is a competence-based curriculum in the liberal arts? Journal of Higher Education, 46, 25-40.
- Knox, A.B. (1977). Adult development and learning. San Francisco: Jossey-Bass.
- Kohlberg, L. (1969). Stage and sequence: The cognitive developmental approach to socialization. In D. Goslin (Ed.), Handbook of socialization theory and research. Chicago: Rand McNally.

- Kohlberg, L. (1972). A cognitive developmental approach to moral education. Humanist, 6, 13-16.
- Kohlberg, L. (1973). Continuities in childhood and adult moral development revisited. In P.B. Baltes & K.W. Schaie (Eds.), Life-span developmental psychology. New York: Academic Press.
- Kohlberg, L., & Mayer, R. (1972). Development as the aim of education. Harvard Educational Review, 42, 449-496.
- Kolb, D.A. (1974). On management and the learning process. In D.A. Kolb, I.A. Rubin, & J.M. McIntyre (Eds.), Organizational Psychology (pp. 27-42). Englewood Cliffs, N.J.: Prentice-Hall.
- Kolb, D.A. (1982). Three traditions of experiential learning: their relevance for current practice. Council for Adult and Experiential Learning News, 6, 10-12.
- Korn, H.A. (1968). Personality scale changes from the freshman year to the senior year. In J. Katz & Associates, No time for youth: Growth and constraint in college students. San Francisco: Jossey-Bass.
- Kuh, G.D. (1975). Personality change among liberal arts graduates. (Doctoral dissertation, University of Iowa). Dissertation Abstracts International, 36, 55119A-5120A. (University Microfilms No. 76-2145).
- Kuh, G.D. (1976). Persistence of the impact of college on attitudes and values. Journal of College Student Personnel, 17, 116-122.
- Kuh, G.D., & Ardaiole, F.P. (1979). A comparison of the personality characteristics of adult learners and traditional age freshmen. Journal of College Student Personnel, 20, 329-335.
- Lasker, H.M., & deWindt, C. (1976). Implications of ego stage for adult development. Cambridge, MA: Harvard University Graduate School of Education.
- Lasker, H., & Moore, J. (1980). Current studies of adult development: Implications for education. In Adult development and approaches to learning. (DHEW publication No. 400-79-0036). Washington D.C.: U.S. Government Printing Office.

- Lehman, I.J., & Dressel, P.L. (1962). Critical thinking, attitudes, and values in higher education. U.S. Department of Health, Education and Welfare Cooperative Research, Project No. 590. East Lansing, MI: Michigan State University.
- Levine, A. (1978). Handbook on Undergraduate Curriculum. San Francisco: Jossey-Bass.
- Levinson, D.J. (1978). Season's of a man's life. New York: Alfred A. Knopf.
- Lipman-Blumen, J., & Leavitt, H.S. (1977). Vicarious and direct achievement patterns in adulthood. In N. Schlossberg & A.D. Entine (Eds.), Counseling adults. Monterey, CA: Brooks/Cole.
- Loevinger, J. (1976). Ego development: Conceptions and theories. San Francisco: Jossey-Bass.
- Loevinger, J., & Wessler, R. (1970). Measuring ego development I: Construction and use of a sentence completion test. San Francisco: Jossey-Bass.
- Loevinger, J., Wessler, R., & Redmore, C. (1970). Measuring ego development. San Francisco: Jossey-Bass.
- Long, H.B. (1983). Adult learning: Research and practice. New York: Cambridge.
- Lowenthal, M.F., Turner, M., & Chiriboga, D. (1975). Four stages of life. San Francisco: Jossey-Bass.
- Marienau, C., & Chickering, A.W. (1982). Adult development and learning. In B. Menson (Ed.), Building on experiences in adult learning. New Directions for Experiential Learning, 16.
- Mentkowski, M., & Doherty, A. (1984). Abilities that last a lifetime: Outcomes of the Alverno experience. American Association for Higher Education Bulletin, 36, 5-6; 11-14.
- McDaniel, T.R. (1976). The cognitive and affective in liberal education: Can we have both? Liberal Education, 62, 465-471.
- Morstain, H.R., & Smart, J.C. (1977). A motivational typology of adult learners. Journal of Higher Education, 47, 665-679.

- Murphy, L.B., & Raushenbush, E. (1960). Achievement in the college years: A record of intellectual and personal growth. New York: Harper.
- Neugarten, B.L. (1977). Adaptation and the life cycle. In N.K., Schlossberg, & A.D. Entine (Eds.), Counseling adults. Monterey, CA: Brooks/Cole.
- Newman, J.H. (1972). The idea of a university. Westminster, MD: Christian Classics. (Originally published in 1852).
- Pace, R. (1979). Measuring outcomes of college. San Francisco: Jossey-Bass.
- Pedro, J.D. (1982). Cooperative experiential education programs: The effect on their structure. Madison, WI: University of Wisconsin.
- Perry, W.G. (1968). Forms of intellectual and ethical development in the college years: A scheme. New York: Holt, Rinehart, and Winston.
- Rao, C.R. (1973). Linear statistical inference and its applications. New York: Wiley.
- Sanford, N. (1962). The American college: A psychological and social interpretation of higher learning. New York: John Wiley and Sons.
- Sanford, N. (1966). Self and society: Social change and individual development. New York: Atherton Press.
- Sanford, N. (1981). Foreword. In A.W. Chickering & Associates, The modern American college. San Francisco: Jossey Bass.
- Schlossberg, N.K. (1978). Five propositions about adult development. Journal of college Student Personnel, 19, 418-423.
- The School for New Learning. (1982). Growing together: The School for New Learning at DePaul University. Unpublished document.
- The School for New Learning. (1989). Competence Framework. Unpublished document.
- Sewall, T.J. (1984). A study of adult undergraduates: What causes them to seek a degree? Journal of College Student Personnel, 25, 209-315.

- Sexton, R. (1977). Experiential education and community involvement practices at the postsecondary level: Implications for career education. Washington, DC: National Advisory Council for Career Education.
- Sexton, R.F., & Ungerer, R.A. (1975). Rationale for experiential education. ERIC/Higher Education Research Report, 3.
- Sheckley, B.G. (1985). The adult learner: Increasing appreciation for individual differences. Council for Adult and Experiential Learning News, 8, 10.
- Sheehy, G. (1976). Passages: Predictable crises in adult life. New York: Dutton.
- Smith, M.B. (1974). Competence and adaptation. The American Journal of Occupational Therapy, 28, 11-15.
- Stephenson, J.B., & Sexton, R.B. (1975). Experiential education and the revitalization of the liberal arts. In S. Hook (Ed.), The philosophy of the curriculum: The need for general education. Buffalo, NY: Prometheus Books.
- Tarule, J.M. (1980). The process of transformation: Steps towards change. In E. Greenberg, K.M. O'Donnell, & W. Bergquist (Eds.), Educating learners of all ages (pp.23-36). New Directions for Higher Education, 29. San Francisco: Jossey-Bass.
- Tough, A. (1971). The Adult's Learning Projects. Research in education series no. 1. Toronto: Ontario Institute for Studies in Education.
- Tough, A. (1978). Major learning efforts: Recent research and future directions. Current Issues in Higher Education. Washington DC: American Association of Higher Education.
- Trivett, D.A. (1975). Competency programs in higher education. Washington, D.C.: American Association for Higher Education.
- U.S. Bureau of the Census. (1985). Statistical abstract of the United States: 1986. 106th edition. Washington, D.C.
- Valley, J.R. (1976). Experiential education and the nontraditional student. In R.F. Sexton (Ed.), Dimensions of experiential education (pp. 9-16). National Center for Public Service Internship

Programs.

- Van Doren, M. (1943). Liberal education. New York: Holt.
- Weathersby, R.E. (1977). A developmental perspective on adults' uses of formal education. (Doctoral dissertation, Harvard University). Dissertation Abstracts International, 38, 12A. (University Microfilms No. 78-08621.)
- Weathersby, R.P. (1978). Life styles and learner interests. The adult learner. Washington, DC: American Association for Higher Education.
- Weathersby, R.P. (1980). Education for adult development: The components of qualitative change. In E. Greenberg, K.M. O'Donnell, & W. Bergquist (Eds.), Educating learners of all ages (pp. 9-22). New Directions for Higher Education, 29. San Francisco: Jossey-Bass.
- Weathersby, R.P., & Tarule, J.M. (1980). Adult development: Implications for higher education. Washington, D.C.: American Association for Higher Education.
- Werner, H. (1948). Comparative psychology of mental development. New York: International Universities Press.
- Whitbourne, S.K., & Weinstock, C.S. (1979). Adult development: The differentiation of experience. New York: Holt, Rinehart and Winston.
- White, R.W. (1966). Lives in progress. New York: Holt, Rinehart and Winston.
- Widick, C., Parker, C.A., & Knepfelkamp, L. (1978). Douglas Heath's model of maturity. In L. Knepfelkamp, C. Widick, & C.A. Parker (Eds.), New Directions for Student Services, 4, 80.
- Wiersma, W. (1986). Research methods in education: An introduction. Boston: Allyn and Bacon.
- Winter, D.G., McClelland, D.C., & Stewart, A.J. (1981). A new case for the liberal arts. San Francisco: Jossey-Bass.

APPENDIX A

The School for New Learning of De Paul University, Chicago was founded in 1972 as an alternative college offering a baccalaureate degree program for adult learners over 24 years of age.

The School offers a competence-based curriculum. That is, it certifies students for graduation on the basis of the knowledge, abilities and attitudes they demonstrate. It awards credit for learning gained through life experiences.

Students seeking admission to the School for New Learning must demonstrate these qualities: maturity, flexibility, the ability to do college level academic work, the ability to set clear goals and achieve them, and the capacity to take responsibility for one's own learning.

Six process steps -- Discovery Workshop, Foundations of New Learning, Major Seminar, Major Piece of Work, Externship and Summit Seminar -- provide a framework within which all baccalaureate degree candidates complete the requirements for the bachelor of arts degree.

School for New Learning students have an average age of 35, although they range in age from 24 to 70 years old. The majority are employed full-time. A diverse array of careers is represented in the student body, from executives to laborers, homemakers to self-employed professionals, secretaries to managers.

Faculty of the School for New Learning are

academics and professionals from the Chicago area who are selected for their expertise in particular subjects, their ability as teachers, and their commitment to adult learning.

The School for New Learning offers classes in the evening and on weekends at four Chicago area campuses of De Paul University -- at the Loop Campus in downtown Chicago, the Lincoln Park Campus on Chicago's near north side, the O'Hare Campus in northwest suburban Des Plaines, IL, and the Oak Brook Campus in west suburban Westchester, IL.

APPENDIX B

SURVEY

Code Number: _____

PLEASE CIRCLE THE APPROPRIATE NUMBER RELATING TO YOUR ANSWER.

1. What is your sex?

- 1 Female
- 2 Male

2. How old are you?

- 1 Under 30 years
- 2 31 to 40 years
- 3 41 to 50 years
- 4 51 years or more

3. Have you been previously enrolled in any postsecondary educational institution? If you have been enrolled in more than one, please select the most recent from the choices below.

- 1 No, I have not been previously enrolled
- 2 Yes, at De Paul University
- 3 Yes, at a public two-year college
- 4 Yes, at a public four-year college or university
- 5 Yes, at a private four-year college or university other than De Paul
- 6 Yes, at a vocational/technical school, hospital school of nursing, trade school, or business school
- 7 Other (please list) _____

4. How many hours of college credit have you completed prior to enrollment at the School for New Learning?

- 1 Less than 10
- 2 11 to 20
- 3 21 to 30
- 4 31 to 40
- 5 41 to 50
- 6 More than 51

5. How would you classify the above credit hours?

- 1 Semester hours
- 2 Quarter hours

6. In which of the following categories would you classify your current occupation? Please read all five categories before selecting.

- 1 Business Contact and Business Operations
(includes: marketing and sales, management and planning, records and communications, financial transactions, storage and dispatching, business machine/computer operation)
- 2 Technical
(includes: vehicle operation and repair, construction and maintenance, agriculture and natural resources, crafts and related services, home/business equipment repair, industrial equipment operation and repair)
- 3 Science
(includes: engineering/other technologies, medical specialties/technologies, natural sciences and mathematics, social sciences)
- 4 Arts
(includes: applied arts (visual), creative/performing arts, applied arts (written and spoken))
- 5 Social Service
(includes: general health care, education and related services, social and government services, personal/customer services)

7. Please list your occupation (not your title) _____

APPENDIX C


DePaul University

School for New Learning

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312 341-8001

MEMORANDUM

TO: Discovery Workshop Students
FROM: David O. Justice, Dean 
RE: Research Study
DATE: November 3, 1986

As potential SNL students you can play an important part in our ability to adapt and change our program to meet the needs of those who pursue the degree program at SNL.

Currently, a research study is being conducted by Allen V. Lentino, a Discovery Workshop leader and doctoral candidate in higher education. Mr. Lentino will be administering a survey during the Discovery Workshop which will provide valuable information about the development of adult learners at three stages of the SNL program.

I encourage you to participate in this important study when Mr. Lentino attends your Discovery Workshop. He has my complete support and I hope you will give him yours as well.

APPENDIX D

The Bachelor of Arts program at the School for New Learning (SNL) is defined by fifty statements of competence arranged into five domains: The World of Work, The Human Community, The Physical World, The Arts of Living, and Lifelong Learning. Taken together these statements describe the characteristics of a liberally educated adult prepared to engage in learning as a lifelong pursuit. In order to graduate, a student must demonstrate all 50 competences.

The World of Work. This domain encompasses the knowledge, abilities, and values associated with career, vocation or educational specialization goals. Of the ten World of Work competences, only two are proscribed for all SNL degree candidates:

1. Can select an appropriate career area and design a career path.
2. Can analyze how organizations in the selected career area function.

The remaining eight competences are written by the student and reflect his or her own particular World of Work.

The Human Community. This domain encompasses the knowledge, abilities, and values associated with human relations and communication between individuals and within and among organizations, institutions, states, economic systems, and history. These five competences are mandatory for all SNL degree candidates:

HC-1 Can express the values of another culture through its language, arts, or customs.

HC-2 Can describe and explain the roles of individuals, groups, societies, or states in history.

HC-3 Can compare two or more societies with respect to their economic structures or political organizations.

HC-4 Can use theories of human behavior to understand or solve problems.

HC-5 Can plan one method of change within a community and assess its likely effects.

Competence statements for the Human Community 6, 7, and 8 must be chosen from the following:

HCA-A Can evaluate the contributions of social institutions to the welfare of the communities they serve.

HC-B Can effectively employ the skills of negotiation, mediation, and interpersonal communications in the resolution of a dispute or conflict.

HC-C Can explain how two or more of the factors of race, ethnicity, nationality, class, age, sex, or religion interact to shape individuals and communities.

HC-D Can evaluate the role and impact of mass media on society.

HC-E Can employ techniques of forecasting to project trends and anticipate the future.

Two "Capstone Competences" are written by the student with the advice and approval of the student's committee.

Physical World. This domain encompasses the knowledge, abilities, and values associated with the world of things: technologies, Physical and natural sciences, symbolic systems for describing the physical world, the environment, weather, water and the winds. These five competences are mandatory for all SNL degree candidates:

PW-1 Can use mathematics to describe and solve problems.

PW-2 Can employ scientific reasoning to describe and explain natural phenomena.

PW-3 Can explain the fundamental principles of computing and use a computer to solve problems.

PW-4 Can evaluate sound health care based on an understanding of the functions of a healthy human being.

PW-5 Can describe human growth and aging in terms of biological change.

Competence statements for Physical World 6, 7, and 8 must be chosen from the following:

PW-A Can evaluate the consequences of population growth on the physical environment.

PW-B Can explain the impact of technology on a society or culture.

PW-C Can evaluate the costs and benefits of various sources of energy.

PW-D Can compare various regions or the earth with respect to the quality of life afforded by their physical features.

PW-E Can assess the effects of natural or created environments on health.

Two "Capstone Competences" are written by the student with the advice and approval of the student's committee.

The Arts of Living. This domain encompasses the knowledge, abilities, and values that enhance the quality of one's life and the lives of others. Competence in this area is developed through reflection on human living, philosophy, religion, aesthetic experiences, and performance in the arts, and sports.

AL-1 Appreciates the values expressed in art forms, literature, or entertainments.

AL-2 Can create an original work in an artistic form and justify that form.

AL-3 Can evaluate works of art or literature in terms of form, content, and style.

AL-4 Can demonstrate how leisure activities enhance the quality of life for oneself and others.

AL-5 Can compare religious or philosophical systems and explain a preference for one.

Competence statements for Arts of Living 6, 7, and 8 must be chosen from the following:

AL-A Can perform proficiently in an art form and analyze the elements which contribute to proficiency.

AL-B Can employ principles of design to enhance functions of objects and environments.

AL-C Can compare two or more authors, composers, or artists as commentators on the human condition.

AL-D Can examine adult growth and development in terms of changes in attitudes, values, and understandings.

AL-E Can explain the function of popular folk arts in the transmission of culture and values.

Two "Capstone Competences" are written by the student with the advice and approval of the student's committee.

Lifelong Learning. This domain encompasses the knowledge, abilities, and values associated with the continuum of learning. They include fundamental skills of reading, writing, speaking, and listening, as well as the complex abilities of goal setting, decision-making, and evaluation. These competences are acquired through all areas of human endeavor.

1. Can set life goals and derive appropriate educational goals from them.
2. Can describe and document abilities, knowledge, and values gained from experience and show their relevance to one's life and educational goals.
3. Can plan strategies for the attainment of learning goals.
4. Can read and write with clarity and facility.
5. Can listen, speak, and reason in a manner appropriate to intellectual discourse.
6. Can use methods of formal inquiry to solve problems or answer questions.
7. Can design and carry out an independent learning project which exhibits control of the learning methods used.
8. Can design or produce a significant artifact or document which gives evidence of in-depth competence in a specific area of knowledge.
9. Understands the educational and developmental factors that affect a person's identity.
10. Understands the personal and social value of lifelong learning.

APPROVAL SHEET

The dissertation submitted by Allen Vincent Lentino has been read and approved by the following committee:

Dr. Terry E. Williams, Director
Associate Professor, Educational Leadership and Policy
Studies, Loyola University of Chicago

Dr. Gloria J. Lewis
Associate Professor and Chairperson, Counseling and
Educational Psychology, Loyola University of Chicago

Mr. David O. Justice
Dean, School for New Learning, De Paul University

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

April 16, 1990
Date

Terry E. Williams
Director's Signature