Selected Changes in Urban High School Students After Participation in Community Based Learning and Service Activities

Kathleen Parks Luchs
University of Maryland

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Selected Changes in Urban High School Students after Participation in Community Based Learning and Service Activities

by

Kathleen Parks Luchs

Dissertation submitted to the Faculty of the Graduate School of the University of Maryland in partial fulfillment of the requirements for the degree of Doctor of Philosophy

1981
Title of Thesis: Selected Changes in Urban High School Students After Participation in Community Based Learning and Service Activities

Name of Candidate: Kathleen Parks Luchs
Doctor of Philosophy, 1981

Thesis and Abstract Approved: L. Morris McClure, Professor Department of Administration, Supervision, and Curriculum

Date Approved: April 4, 1981
ABSTRACT

Title of Dissertation: Selected Changes in Urban High School Students After Participation in Community Based Learning and Service Activities

Kathleen Parks Luchs, Doctor of Philosophy, 1981

Dissertation directed by: L. Morris McClure
Professor of Education
Department of Administration, Supervision and Curriculum

This study measured selected changes in high school students as a result of community involvement and participation in order to realize the goal of responsible citizenship. It was designed to ascertain whether students who experienced community service displayed more positive attitudes toward learning than students who had not experienced community service.

The study investigated changes in the areas of: student attitudes toward future life goals as measured by actual behaviors in planning and exploring careers, feelings of personal adequacy or inadequacy as measured by self-esteem in social situations, attitudes toward helping others as measured by social and personal responsibility indices, attitudes toward responsible community and school citizenship as measured by attendance and disciplinary referrals.

Three hundred urban high school students who were enrolled in the "general" course of study were administered pretests. One hundred thirty-six of the original one hundred fifty experimental group students completed the posttest after finishing thirty hours of community learning/service activities. One hundred twenty six control group students completed the posttest. Student attendance and disciplinary referrals were examined, and interviews were conducted with ten students and five teachers.

The following research hypotheses were tested:
1. There is a difference in attitudes toward school, toward helping others, and toward future life goals as measured by three attitude scales between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.
2. There is a difference in the level of active community involvement and students' commitment to the educational goal of responsible citizenship as measured by better school attendance between urban high school students who are involved in a community-based learning/service experience and those who are not involved in such an experience.

3. There is a difference in the level of active community involvement and students' commitment to the educational goal of responsible citizenship as measured by fewer school disciplinary offenses between urban high school students who are involved in a community-based learning/service experience and those who are not involved in such an experience.

A t-test was performed on pretest control and experimental group sample means and variances in order to determine the suitability of the groups for comparison. A paired sample t-test, a one way analysis of variance, a three way analysis of variance, and a discriminant analysis were used to treat the data.

Changes within experimental and control groups were calculated by comparing pre and posttest means and variances in each group treating the groups as wholes, and then by examining males and females separately. Forty-eight variables were grouped into ten clustering variables: Career, Traditional Career, Social Welfare, Duty, Competence, Efficacy, Performance, Inadequacy, Absence, Referral.

Results of the data analysis provided support for the hypotheses. The following conclusions were reached:

1. Students who were involved in the experiential learning/service program demonstrated positive and significant gains in planning and career exploration behaviors.

2. Students who were involved in the experiential learning/service program demonstrated positive and significant gains in responsible attitudes toward others, in competence to act upon the feeling of concern for others, and in the sense of efficacy which permits one to believe that taking action and demonstrating concern can make a difference.

3. Students who were involved in experiential learning/service programs demonstrated positive and significant gains in their feelings of self esteem and personal adequacy in social situations.

4. Students who were involved in experiential programs demonstrated positive and significant gains in school attendance and in acceptable school behaviors.
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To my husband, Kenneth, I offer my loving appreciation for his continuing kindness, patience, and understanding throughout these past years; to my daughters, Michele and Colette, for their support, I offer my love and thanks.
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CHAPTER I
INTRODUCTION

Background of the Study

A number of critics of American secondary education believe that American youth are not being well enough educated to take their places as effective citizens in adult society. They contend that secondary education in the United States is not meeting the objective of providing students with the skills for responsible citizenship, an objective which has been universally accepted since the Committee on the Reorganization of Secondary Schools in 1917 published the Seven Cardinal Principles as the major purposes of American education (Scotter, Kraft, and Haas, 1979, p. 269). This objective and the other six "can now be found in one form or another as the stated objectives of almost every school district in the United States..." (Scotter, Kraft, and Haas, p. 276).

Although education for effective citizenship has been incorporated into a purpose for schooling, in practice there has been a lag in the development of American secondary education as a reflection of society and the shift from private education for only the cultured gentleman, to public education in the liberal arts for the emerging college bound middle class, to public education with a utilitarian focus as American society seeks to educate all of its youth.

Early Puritan society in America made grammar or secondary
school mandatory for each town of one hundred families and held that the school was responsible for education for citizenship. The end of the theocratic Massachusetts Bay Colony, however, also spelled the end of compulsory education in America and the end of education for citizenship as a primary goal of education for over two hundred years (Kneller, ed., 1967, p. 15).

During the 1800's, the Latin grammar school which prepared young people for further college study and the academy which concentrated on preparing young people for the practical side of life were the dominant secondary institutions in the United States (Scotter, Kraft, and Haas, p. 18). Both types of schools offered private education.

The public high school movement gained momentum with the Kalamazoo, Michigan, case in 1874 in which "the courts established the principle that people of the states could support public high schools with tax funds" (Scotter, Kraft, and Haas, p. 19). By 1890, the public high school, although it enrolled only four percent of the high school aged population, had overtaken the academy and the Latin grammar school as the primary educational institutions for American youth. In 1893, this high school movement formalized its primary goal as that of preparation of students for college with the publishing of the report of the Committee of Ten chaired by Charles Eliot, president of Harvard University (Pounds and Bryner, 1973, p. 62).

During the past eighty plus years, the high school has
changed from a voluntary institution for the few being prepared for college to an involuntary institution for all youth. "The statistics are startling. In 1900, eleven percent of the high school aged population was in school; in 1920, thirty-two percent; in 1930, fifty-one percent; in 1940, seventy-three percent; and in 1965, about ninety percent" (Coleman, 1965, p. 7). In 1950, less than fifty percent of United States students were being graduated from high school. In 1975, it was seventy-four percent. In 1977, the figure exceeded eighty percent, and it is still climbing (American School Board Journal, 1980, p. 20).

Currently, schools are addressing the extremes in education. Middle class and other aspiring children are being prepared for college on one hand. Great amounts of federal dollars are being spent for vocational education on the other hand. Students in the middle, the ones between these two extremes, are being short-changed. These students frequently are restless; they put little into their schooling because they do not see themselves getting anything out of it. They are "no longer inspired by traditional and extra-curricular activities" (National Student Volunteer Program, 1979, p. 9). Although schools "have come to provide the general social environment for youth," great numbers of those youth are not being effectively prepared for the environment they will enter after high school (Coleman, 1974, p. 2).
In the past, the family was the primary educational agency which prepared children for the future in the occupational and in the civic sense. The mid-twentieth century youth is much less involved with family life than was his counterpart of past centuries; he possesses conflicting and multiple loyalties (Epperson, 1964, pp. 93-96).

Today, this nation and the society within it have grown to the point that educational institutions, particularly the secondary schools, must accept the responsibility to shape young people into effective citizens and to become instruments for social change if social change is necessary to carry out this responsibility. Schools, research says, are not now involved in positive social change (Zeigler, Tucker, and Wilton, 1977).

Students in secondary schools are between the points of primary education where they are taught the "skills of basic literacy and calculation and the college where they are prepared for professions" said James Coleman in his study of adolescents' experiences in secondary schools (Coleman, 1965, p. vi).

A large number of students who do not go on to college frequently do not master the skills of basic literacy and calculation before they attempt to find jobs after high school. Even those who can read and write are still undecided about their futures, as witness the rise of the junior college which is a holding station for those who have not made occupational plans.
Many of these students have not found their high school experiences to be useful or rewarding, particularly in the area of preparation for their futures and for citizenship. A Phi Delta Kappa Study of Schooling involving over 17,000 students found that "students who don't expect to go to college tend to believe that their high school doesn't consider them very important" (Benham, Giesen, and Oakes, 1980, p. 338). Findings of the National Assessment of Educational Progress in the area of citizenship assessment indicate that the educationally elite, the college educated, and the wealthy performed best on citizenship measures by showing the most concern for others, by supporting the rights and freedoms of all Americans, and by participating in greater numbers in civic action (Johnson, 1975, p. 83). Nearly one-half of the 1960 high school students in the Project Talent survey, when questioned in a follow-up survey eleven years later, did not consider their high school experiences to have been "valuable" or even "fairly useful". By comparison, only about fifteen percent of college students rated their experience as unsatisfactory (Carnegie Council, 1979, p. 2).

Instead of educating young people for responsible adulthood, schools are frequently seen as preparing them for docility (Goodlad and Klein, 1970; Martin, 1975). The reality of education is that children are captives hampered in their educational progress by insensitivity on the part of many teachers (Bereiter,
1971, pp. 15-24). Cusick, in a participant observer study of a traditionally organized secondary school, concluded that instruction which did occur forced students to become passive spectators in the teacher dominated, subject focused learning process (Cusick, 1973). A Rand study discovered that teachers do not want to have this authority structure tampered with. If their power is shared with children, they believe it will diminish (Mann, 1977, p. 59).

Though citizenship needs self-direction,

... (many) schools discourage students from developing the capacity to learn by and for themselves; they make it impossible for a youngster to take responsibility for his own education, for they are structured in such a way as to make students totally dependent upon the teachers. Whatever rhetoric they may subscribe to, most schools in practice define education as something teachers do to or for students, not something students do to and for themselves, with a teacher's assistance. (Silberman, 1970, p. 135)

Because of the lack of learning to take responsibility for their own decisions, young people, limited in experience but faced with a number of alternatives, find making a choice a difficult thing. Attempting to choose frequently results in "hopelessly dependent and indecisive behavior" (Elkund, 1974, p. 180).

Adolescents in the nation's high schools, are, for the most
part, seen as existing in a "vacuum of triviality" (Campbell, 1969, p. 855), a vacuum which bears little or no relationship to life outside the classroom. Silberman, in his monumental nationwide study, documented the failure of nearly every American school in existence today as resulting from a rigid mindlessness in teachers, administrators, and parents obsessed with order and the imposition of a prison psychology in the classroom (Silberman, 1970, pp. 15-16). This prison psychology is especially demoralizing to the twenty-five to seventy-five percent of the country's urban high school students who are disadvantaged (Benedict, 1980, p. 596).

Secondary schooling structures have particularly devastating effects on inner city junior and senior high school students. Urban educational programs have not changed substantially in the last half century, in spite of the fact that contemporary city students resemble little their predecessors of fifty years ago. Many of those schools are turning out or pushing out teenagers who have scant hope of really "unearthing" themselves. Underskilled and largely unemployed, these young people, particularly the poor and minority students, are being relegated to a status of permanent dependency upon society. (United States Department of Health, Education and Welfare, 1979, p. 1) Granted that the population in high schools is there in a
compulsory mode, nevertheless the schools must recognize that compulsory education laws exist and either change those laws or adapt to them more successfully.

Most educational critics add a myriad of detail to the charges of poor education, charges which have been seen to cost this nation tremendous immediate and future social consequences for today's adolescents and for tomorrow's adults. Student alienation is a fact of school life (Bidwell, 1965). Ghory and Sinclair (1978) found that even students in alternative schools, nearly one-fourth of such students studied, are alienated from their community and, thus, from the alternative educational process. High schools are frequently viewed by critics as institutions which are heavily overburdened and are isolated from the reality of the community and the adult world for which society says students are being prepared (Passow, 1975, pp. 587-590). The community, is, in turn, cut off from the education of its children, while the children are divorced from the riches of the community (Bremer and Von Moschzisker, 1972, p. 6). "If schools are to become and remain a truly integral part of our lives and our world, they must bear a direct relationship to the realities of our world, as well as to our vision for a better world" (Watson, Bernard, 1977, p. 168).

One of today's most pressing educational problems is that of creating and continuing a humane society, one which fosters the linkage of school to the larger community (Silberman, 1970,
There is no cognitive link in the mind of the student between what is relevant in school to the greater society at a later point in time. Indeed, the same case might be made for the limited perceptions of educational leaders. An air of immediacy of the importance of school experience is not demonstrable to the student under traditional curriculum models. The focus of this study is that the missing operational link is the presence of societal experiences under the sponsorship of the school as a planned experience.

Because of the lack of such a linkage, the institutional nature of the high school today, and the size of its population, students frequently complain of boredom, and say that "school is a waste of time" (Jackson, 1968, p. 168). A 1976-77 survey of over six hundred young men and women who had graduated from high schools in 1970 concluded that schools were a place to act and conform. Students believed that out-of-school activities were more influential than in-school activities in their becoming mature and responsible citizens...(The curriculum) was considered to be irrelevant and uninteresting; it was not related to social concerns (Sturges, 1979, p. 504). Complaints are prevalent enough that teachers frequently are needed to convince students that "compulsory activities are worthwhile and the things they are doing are not just busy work" (Jackson, 1968, p. 169). When they cannot be convinced, large numbers of students find it expedient to attend high school sporadically, prompting the
educational system to attempt large scale research studies on the causes and possible solutions of wholesale absenteeism (Levanto, 1975; Thomson and Stanard, 1975). A recent study by the Detroit Board of Education indicates that nearly thirty percent of students are absent from each class on an average day (Teachman, 1979, p. 203). Lack of curriculum relevancy was one of the problems found to be associated with a student attendance rate of only forty-nine percent at an urban high school in New York City (Wilson, D., 1975). High schools are seen as an "alienating experience for many young people; like a prison—albeit with open doors—for some" (Carnegie Council, 1979, p. 2).

To (some) compassionate critics, education in America kills the minds, hearts, and spirits of defenseless children and youth. Some of their book titles are indicative of the tone of their criticism; Death at an Early Age: The Destruction of the Hearts and Minds of Negro Children in the Boston Public Schools, by Jonathan Kozol; Our Children are Dying, by Nat Hentoff; How to Survive in Your Native Land, by James Herndon; The Naked Children, by Daniel Fader. (Van Til, ed., 1976, p. 3)

In addition to being bored in school, students are also observed to exhibit anti-social and/or disruptive behaviors. A study conducted by Syracuse University concluded that acts of vandalism appear to be the result of school alienation;
violence and vandalism are particularly high in schools where there is a high student absentee rate (Steele, 1978, p. 86).

"The harm done to the school by the student who doesn't want to be there is measured not only by the incidence of vandalism and assault but also by a subtle and continuous degradation of the tone of the educational enterprise" (Brown, 1973, p. 133).

Because of the magnitude of disciplinary problems, a state legislature authorized a task force to study problems concerned with student expulsion and suspensions, and to make a detailed report on possible alternatives to existing educational programs (Louisiana State Department of Education, 1975).

Juvenile crime has risen sixteen hundred percent in twenty years and more crimes are now committed by children under fifteen than by adults over twenty-five. Crime waves in the streets have overflowed into the schools. Between 1970 and 1973, assaults on teachers increased seventy-seven percent and assaults on other students increased eighty-five percent in the United States (Patterson, 1977).

In Maryland, a recent study found that five percent of state high school students displayed disruptive behavior; disruptive was defined as a "violent act committed once at school or at least ten office referrals for misbehavior" during the course of a school year (National Association of Secondary School Principals, 1976, p. 2). This study also found that thirty-five percent of Maryland secondary students displayed behaviors that
caused them to be referred to the administrative office at least once during the school year. The task force concluded that "disruptive behavior is caused by an interaction of factors found in the individual, the society, and the school. No one factor is solely responsible" (National Association of Secondary School Principals, 1976, p. 5). One of the task force's recommendations for producing change was that a community council made up of parents, school system representatives, youth agencies, professionals, and business leaders be involved in providing community articulation in training students in decision making skills. Such articulation should decrease feelings of alienation in students as it also helps to involve community council members in viable educational decision making. Feelings of powerlessness, social isolation, and normlessness should be significantly decreased by such a community council or community school liaison (Curran, 1976; Rielle, 1976; Davis and Fantini, 1977; Dyer, 1979).

In addition to creating disruption, Alvin Toffler believed that as long as students are cut off from the productive work and activities of the surrounding society, great numbers of them will continue to be "de-motivated" because they are not in reality a part of community decision making. The "secret message to youth by society is that they are not needed until some time in the future" (Toffler, 1974, p. 15). It is evident that this message has clearly been understood by youth; in the Presidential election of 1976, only forty-two percent of
young people aged eighteen to twenty-four considered themselves involved enough to vote. Only twenty-eight percent of black young people voted (Landraum, 1979). A study conducted by the National Assessment of Educational Progress which questioned one hundred forty-five thousand teenagers aged thirteen and seventeen between 1969 and 1976 discovered that American teenagers know little about the American form of government and care less about being involved in it (Brown, 1978, p. 15).

In addressing problems such as this, Otto Kraushaar, President Emeritus of Goucher College, stated that:

the crux of the present school problem is that in undertaking to carry out the democratic mandate of universal, free, compulsory education through twelve grades, the schools have increasingly isolated young people from the rest of society. By institutionalizing the life of the young from ages five to eighteen in age-graded schools, young people are confined largely to social interaction with others of the same age and with a few school authority figures. (Kraushaar, 1978, p. 5)

Students growing up today never "have a chance to practice with many of the difficult problems which will face them as adults" because these problems are not personal ones; they are "problems involving a more impersonal and more powerful environment, the large institutions with which they must cope" if
they are to survive in American society (Coleman, 1961, p. 328).

In addition to isolating young people from practical problem solving, American society as particularized in the high school, has greatly prolonged youth--the period from adolescence to adulthood. A "compulsory youth--a substantial time between dependence and independence, a twilight zone of uncertainty and ambiguity of status" has been created (Carnegie Council, 1979, p. 15).

To solve these dilemmas, Coleman indicated that students must learn the crucial quality of self-responsibility, and that the only way to create the learning environment for such responsibility is by opening up the schools to the community and the larger society (Coleman, 1965, pp. 110-111; Coleman, 1974, p. 143). Students should be trained to use their knowledge on the society around them and to expand that knowledge in a partnership with the resources of the community (Cox, 1972; Instructor, 1978). In opening up the schools, administrators should see that communication involves all segments of community life (DeLellis, 1979).

One way to involve youth more directly in the community and to prepare them for effective adulthood is to help them to acquire direct experience in that community while still enrolled in school. Such experiential learning, direct experience, or action learning refers to:

school-based experiential programs offered as an
integral part of the general school curriculum but taking place outside of the conventional classroom, in which students are in new roles featuring significant tasks with real consequences, and in which the emphasis is on learning through doing with associated reflection. (Conrad, 1979, p. 1)

This type of learning has been stressed as one possible answer to the problem of addressing the education of youth in the area of social responsibility and linking that responsibility to the cognitive and academic development of the youth (Bellanca, 1975; Brown, 1973; Coleman, 1974; Karant, 1977; Keeton, 1976; Goodlad, 1975; National Association of Secondary School Principals, 1972; Newman, 1975; Weinstock, 1973).

In 1957, Shaw developed a proposal for secondary education based upon what he perceived as shortcomings of secondary education and the inability of high schools to meet the needs of students and communities. One aspect of his design, community serving contract experiences, was formulated to enable students to develop steadily broadening decision making responsibility in the community and to develop a feeling of status and a stake in the community's welfare. In addition, students would give real and valuable service geared to community needs. This early proposal for community based learning was not widely adapted (Shaw, 1957). In 1974, the Panel on Youth recommended attempting experiential learning with evaluation tied in; the programs
were to be conducted as "experiments or pilot programs with evaluation" to investigate the contributions youth can make to society (Panel on Youth, 1974, p. 150). A number of other studies which recommend that students become deeply involved in community experiences have focused upon "action learning, that learning which requires students to be engaged in projects involving pay-off in terms of a better life in the school and society" (Jennings and Nathan, 1977, p. 571).

A few school systems throughout the nation are currently attempting to address the problems of educating youth for responsible adulthood through experiential learning. In Maryland, the State Board of Education recently postulated that a community-based learning/service program will address the Board policy that the comprehensive educational process in Maryland should be seen as "...that set of learning experiences which leads to effective and satisfying adulthood," and that education is the responsibility not only of the school, but of the community and of other institutions which have lifetime implications upon the lives of those persons being educated (Maryland State Board of Education, 1979, pp. 1-4).

To operationalize this policy, the Maryland State Department of Education is attempting to create a process in which students will incorporate community services with the schooling experience. The process should link basic education with the type of community service which reinforces those basic skills necessary
for life in a competitive society. At the same time, students should be trained in societal living and effective citizenship as they acquire the credits and competencies necessary for high school graduation.

This study is a measurement of the effects of an experiential community learning/service program in a comprehensive urban high school of over two thousand students. Student attitudes and other behavioral variables have been measured.

**Theoretical Framework**

The process desired by the Maryland State Department of Education states in part that high school students should be given:

the opportunity to strengthen and practice academic skills, become involved in real activities, and help others while providing valuable services to individuals and the community. Furthermore, they would acquire recognition as achievers and contributors in the real world. This kind of recognition would change the source of motivation for learning from the fear of low grades or course failure to the desire to achieve something useful, productive, attractive and valued by one's peers, parents, and community. (Maryland State Board of Education, 1979, p. 3)

The community based learning service process will emphasize a major, but often ignored educational purpose, service for
others and with others. The National Association of Secondary School Principals stated that "because of the nature of modern youth and the interdependence of the contemporary world, particular care should be given to developing the social as well as the personal dimensions of education. Secondary schools, in planning, should focus on needs of people collectively and individually" (National Association of Secondary School Principals, 1975, pp. 10-11).

Although the theory of experiential learning is not a new one, and although writings on community involvement as a form of experiential learning have been extensive, these writings have been largely hortatory or anecdotal, lacking in substance or in the capability of being generalized.

Nettleship, in discussing the educational theories of Plato, notes that Plato wrote that training for effective social and political life should involve learning by doing so that the student would become an integral and vital part of human society (Nettleship, 1968, p. 1). Aristotle agreed that the true function of education was the training of character first with the ultimate goal being the fitting of young people into functional membership as part of a harmonious community (Burnet, 1967). Quintilian, too, saw the child as the center of the curriculum and insisted that the community was the key to active training in technical areas and in humanitarian ideals as embodied in poetry, drama, philosophy, and
oratory (Smail, 1938, p. xviii). In the intervening years, writers such as Montaigne (1595/1958, p. 354), Machiavelli (1513/1955), Rousseau (1757/1972, p. viii) and others stressed the necessity of direct experience as the keystone of education.

During this century, John Dewey was the most renowned proponent of experiential education. He believed that education is experience, and defined it as "that construction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of future experience" (Dewey, 1916/1966, p. 76).

Dewey stressed that there "is the standing danger that the material of formal instruction will be merely the subject matter of the schools, isolated from the subject matter of life-experience" unless learning is active (Dewey, 1916/1966, p. 8).

Reorganization of experience should keep paramount the fundamental principle that school is a form of community life and that the child should be stimulated and controlled in his work through the life of the community (Dworkin, 1959, pp. 23-24). Dewey did not advocate aimlessness in education, but said what is needed is more, not less, attention to subject matter and progress in technique (Neff, 1959). He further stated:

No number of object lessons, got up as object lessons for the sake of giving information, can afford even the shadow of a substitute for acquaintance with the
plants and animals of the farm and garden acquired through actual living among them and caring for them. No training of sense-organs in school, introduced for the sake of training, can begin to compete with the alertness and fulness of sense-life that comes through daily intimacy and interest in familiar occupations. Verbal memory can be trained in committing tasks, a certain discipline of the reasoning powers can be acquired through lessons in science and mathematics; but, after all, this is somewhat remote and shadowy compared with the training of attention and of judgement that is acquired in having to do things with a real motive behind and a real outcome ahead. (Dewey, 1900/1956, pp. 11-12)

In extending the moral implications of Dewey's theory, Claseman stressed that the value of such experiences and the extension of experiences enable one, with direction, to stretch learning through the acquisition of habits and the evaluation of those habits (Claseman, 1974). Edgar Dale has diagrammed a "Cone of Experience" in order to depict the nature of learning. In discussing the levels of learning and the interconnectedness of each one, he placed learning experientially at the base of the cone, with successive levels rising upward through the highest level, that of verbal abstraction. Dale contended that schools operate consistently at the top of the cone, the verbal level;
he believed that they should operate more frequently at the level of direct experience and help the student to move upward to the verbal level as he ties experience together in order to organize, structure, and relate his experiences "so that they are easily available for use in solving problems." (Dale, 1972, p. 86). The direct experiential movement upward into abstract thinking will enable the student to eventually make judgments based upon external standards in order to evaluate critically. This making of critical judgments has been seen as a high, abstract step which must first be based upon specific experiences (Bloom, 1956).

Snow (1973) has designed a coordination of Bloom's and a number of other taxonomies into a system to illustrate the high level of abstract knowledge based upon the bottom layer of experience. A part of that system has been reproduced below. Both Bloom (1956) and Gagne (1970) believed that problem solving or abstract learning are high level learning which must be based upon direct experience if they are to be meaningful.

<p>| TABLE I |</p>
<table>
<thead>
<tr>
<th>Gagne's (1970) Type of Learning</th>
<th>Bloom's (1956) Knowledge Levels</th>
</tr>
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<tbody>
<tr>
<td>Problem Solving</td>
<td>Knowledge of the Universals and Abstractions in a Field</td>
</tr>
<tr>
<td>Rule Learning</td>
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<tr>
<td>Concept Learning</td>
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Bruner, in various writings, consistently focused upon the importance of experiential learning. He believed that the teaching and learning of structure, rather than simply "the mastery of facts and techniques, was at the center of the classic problem of transfer" of information into one's personal schemata (Bruner, 1965, p. 12). "The first object of learning is that it must serve us in the future--1) by its applicability to similar tasks and 2) through the transfer of attitudes and principles--learning not a skill but a general idea" (Bruner, 1965, p. 17).

Students must be led, by teachers, to discover knowledge for themselves. The child must bring knowledge into his own experience before he will be able to make the familiar "an instance of the more general and thereby produce awareness of it" (Bruner, 1971, p. 64). Bruner believed that the act of discovery is the highest form of learning. "It is, in its essence, a matter of rearranging or transforming the evidence in such a way that
one is enabled to go beyond the evidence so reassembled to new insights. It may well be that an additional fact or shred of evidence makes this larger transformation possible. But it is often not even dependent on new information" (Bruner, 1962, pp. 82-83). In making knowledge his own, Bloom insisted that the student must internalize a "denaturing" process which consists of three key points:

1) There must first develop a system of cognitive organization that detaches concepts from the modes of action they invoke.

2) It requires that there be a development of a capacity to detach concepts from their affective contexts.

3) It demands a capacity to delay gratification so that outcomes of acts can be treated as information rather than as simply punishing or rewarding.

(Bruner, 1966, p. 134)

Educators must close the gap that lies between the child's experiences and the subject matter which is the object of the study. The facts and truths—"elements"—operating in the formulating of subject matter and those existent in the child's experience are the same. Dewey theorized that experiential education would:

abandon the notion of subject matter as something fixed and ready-made in itself; outside the child's experience; cease thinking of the child's experience
as also something hard and fast; see it as something fluent, embryonic, vital; and we realize that the child and the curriculum are simply two points which define a single process. Just as two points define a straight line, so the present standpoint of the child and the facts and truths of studies define instruction. It is continuous reconstruction, moving from the child's present experience out into that represented by organized bodies of truth, that we call studies. (Dewey, 1902/1956, p. 11)

Unless there is active reflection of the experience, Dewey believed that the experience was useless. He frequently stressed the necessity of active reflection by reiterating the theory that "no experience is educative that does not lend both to knowledge of more facts and entertaining of more ideas and to a better, a more orderly arrangement of them" (Dewey, 1918/1972, p. 82).

In other words, a habit of reflection includes a habit of getting knowledge, first-hand if possible, second-hand if necessary. It also includes developing longer-range and more inclusive aims, learning to act on the basis of conclusions reached by reflection, and, in general, forming a disposition, not only to reflect on the basis of the clearest concepts and best knowledge available, but also to act accordingly--not
only to think, but also to execute, intelligently. To have this complex disposition, Dewey says, is to have character.

(Frankena, 1965, p. 144)

In stressing active reflection of experience, James Coleman's theory drives home the point of the function of experiential education.

It is intense experiences, critical events, that give us knowledge of ourselves, make us less fearful of our faults, more able to address them in a straightforward way, without fear or favor. This the school was never designed to do...It has come to be time to design learning environments, whether in school or in another setting, that contain those experiences that move one along the path to self-knowledge.

(Coleman, 1979, pp. 8-9)

Combs, in reiterating this point, stated that "any information will affect a person's behavior only in the degree to which the learner has discovered the personal meaning of that information for him or her. Effective learning must be personally relevant" (Combs, 1978, p. 302). Action-learning, problem solving, communication, and humanism must be integrated into a structured system (Newman, Bertocci, and Landsness, 1977).

Another proponent of experiential learning is Piaget who advocated it through his cognitive growth and development
theories. In delineating the four stages of cognitive development--sensori-motor, pre-operational, concrete operational, and formal operations, Piaget stressed the importance of learning through direct experiences. Unless a child first experienced events, he would be unable to reach the stage of formal operations, that stage in which one becomes able to think abstractly. The child's subsequent smooth adult development relies intensively upon the ability to first interact with the environment in a concrete manner. The person who achieves the stage of formal operations will be able to systematically solve real problems only if he has had access to prior real, concrete experiences (Piaget, 1970).

Learning, said Piaget, requires comprehension. The freedom to act on the world and to construct reality is the aim and process of education. It is not just learning by doing...but the assimilation and incorporation into a system that can accommodate it in order for it to be meaningful (Schwebel and Ralph, 1973, pp. 22-23). Piaget believed that action must be a pervasive model for development in order for the child to go successfully from ego-centric and personal forms of representation to more social forms with universal meaning. "The pedagogical implication of Piaget's theory suggests the kind of reform that makes learning truly active and encourages social interaction among pupils to cultivate a critical spirit" (Schwebel and Ralph, 1973, p. 213). Miller quoted Piaget in
his focus upon the necessity of experiential learning:

Good pedagogy must involve presenting the child with situations in which he himself experiments, in the broadest sense of the term—trying things out to see what happens, manipulating symbols, posing questions and seeking his own answers, reconciling what he finds one time with what he finds at another, comparing his findings with those of other children. (Piaget quoted by Miller, 1978, p. 245)

Rogers (1969) and Rich (1962) also were convinced of the need for experiential learning, that learning which takes place when students deal directly with personal, ethical, social, and philosophical problems.

Two major theorists who believed that the base of experiential learning is of paramount importance in children's school experiences were Kohlberg (1970) and Erikson (1968). Kohlberg, in discussing the parameters of moral development, recommended that teachers present students with real moral and ethical problems to be solved within the community. Erikson believed that one gains self-identity through dealing with real issues involving the self and others, issues which demand the application of experiential issues.

In discussing the three types of knowledge offered by the secondary school (knowledge of facts and findings, knowledge of sources and processes, and knowledge of technique), Arthur
Foshay believed that:

the confusion between technique and facts and findings, and the subordination of knowledge of sources and processes, has been seen to reduce the meaningfulness of what is offered in the secondary school.

Since knowledge of sources and processes incorporates the other two types of knowledge, it has been argued that this type of knowledge should be sought in all the offerings at the secondary school level, including the emerging community-as-educator approach, in which the community and its institutions are used as educational resources.

The key to the present argument is that high school students, like all other people, demand that their activity withdraw (psychologically or physically) or make up meanings for it—such as the race for grades or game-meanings with teachers. Much of the disaffiliation of students that plagues high school teachers arises from this failure to approach high school teaching as a quest for meaning. Yet many secondary school teachers succeed in doing so. (in Van Til, 1976, p. 152)

Curriculum designers would do well to include activity and direct experience in school programs. Taba, one such designer, said:
People learn only what they experience. Only that learning which is related to active purposes and is rooted in experiences translates itself into behavior change. Learning in its true sense is an active transaction...To pursue active learning the learner needs to engage in activities which are vital to him, in which he can pursue personal goals and satisfy personal needs.

(Taba, 1962, p. 401)

Longstreet also believed that:

it is possible to develop many different kinds of studies which allow for the direct impact and decision making activities of students, just as it is possible to develop numerous kinds of curricula that tell the students what to do every step of the way. A closed door describes the space it outlines completely; an open door describes the breadth and form of its outline, even the measures of its openness...but to the extent that it offers open space, whatever passes through will influence the qualities that the space will take on. (Longstreet, 1979, p. 129)

Conrad and Hedin admonished that one must be constantly aware that "learning involves two basic spheres of activity: 1) significant experience, in interaction with 2) careful reflection." (Conrad and Hedin, 1977, p. 58) They stressed that:
experience does not imply that learning automatically accrues from experience; the example of the man who has seen everything and learned nothing being all too familiar. Similarly, to assert that all learning must at some point and in some degree be tied to experience does not mean that the experiential method is the only means of acquiring useful knowledge. (Conrad and Hedin, 1979, p. 51)

They believed that experiential education is only one approach to education. It is, however, a key approach to the learning needed for effective citizenship in the adult American community. From extensive research, they concluded that:

1) experiential programs can and do have a strong positive impact on intellectual growth and academic learning, and 2) the exact nature of this learning is, compared with classroom learning, less predictable, less compartmentalized, perhaps more profound, and certainly more elusive to researchers. Serious research in experiential education must attempt to address such learning outcomes; but it must not expect to uncover them through conventional instruments and single-faceted methods. (Conrad and Hedin, 1979, p. 60)

Early findings on experiential learning programs indicate that direct community experiences may be an important method of aiding various kinds of growth and development in students
(Conrad and Hedin, 1978, p. 106).

**Statement of the Problem**

Although education for responsible citizenship is accepted as a goal of secondary education in the United States, a large body of literature suggests that the goal is not being met effectively. A number of writers believe that one reason is that young people are not receiving experiences in decision making skills associated with the consequences of citizenship because they are remote from active participation in community life.

If young people were actively involved in community service activities, they might develop a sense of community and become interested in making themselves meaningful in the daily life of society. Additionally, they might select a direction for future careers or study.

This study, therefore, measured selected changes in students as a result of community involvement and participation in an urban comprehensive high school. It differed from other studies which were reviewed in that follow-up reflective seminars were held on a weekly basis as a regular part of classroom activities. In addition, experimental students met together in small groups to further discuss their experiences with non classroom educational specialists who directed the program.

The following research hypotheses were tested:

\[ H_{01} : \] There is a difference in attitudes toward school, toward helping others, and toward future life goals as measured by three attitude scales between urban
high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.

\textbf{H}_{02}\text{:} There is a difference in the level of active community involvement and students' commitment to the educational goal of responsible citizenship as measured by better school attendance between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.

\textbf{H}_{03}\text{:} There is a difference in the level of active community involvement and students' commitment to the educational goal of responsible citizenship as measured by fewer school disciplinary offenses between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.

This study was significant in that it attempted to measure the implementation of a policy which may set a curricular model for the future in any or all of the twenty-four school districts of Maryland.

It has put into operation a broad body of educational theory concerning the nature and value of experiential education; the body of theory, however, is one around which few educational programs revolve.

Additionally, the findings of the program will be generali-
zable in that the population is one of a comprehensive high school involving students with varying backgrounds. Students have been assigned to groups and to teachers randomly, and the treatment was non-intrusive on existing programs. The treatment required no reorganization of the school, the teachers, nor the schedule.

Limitations

Since the study was limited to community experiences of thirty hours duration during a nine week (school quarter) period, this may not have been enough time to obtain measurable growth in subjects' attendance, behavior, and attitudes.

Additionally, there was no way to guarantee that each student would have a profitable experience in his community learning/service activities. The quality of community based experiences varied in that the staff had little control over them. This problem presented an unpredictable effect on the study. Attempts were made to control this through continuous community contacts by school staff members.

Organization of the Dissertation

A review of the literature related to experiential education is presented in Chapter II. Chapter III describes the methodology and procedures for conducting this research. Chapter IV includes the results of the statistical analysis of the data and the results of the study. A discussion of results, conclusions, and recommendations is presented in Chapter V.
CHAPTER II
LITERATURE REVIEW

Scope and Organization of the Review

Chapter I discussed philosophical views held by critics of American secondary education and the omissions of this education as it attempted to meet one of its goals, preparation for citizenship. The chapter also detailed the lack of practical problem solving experiences for secondary students and the ensuing isolation from the community concerns that those students realize. It suggested that one way of overcoming this lack was to involve students in experience based educational programs offered as an "integral part of the general school curriculum" (Conrad, 1979, p. 1). Support for the theory of experiential education was then delineated by discussing theories expounded by educators through several centuries. The chapter concluded with a statement of the hypotheses and an overview of the study to be conducted.

Chapter II examines the case for experiential education through a selective review of the literature. As was stated in Chapter I, little experimental literature exists; much of what has been written is hortatory in nature. This information is not discussed, as it does not contribute hard data to the present study.

The literature presented in Chapter II, therefore, consists of studies which relate to the current effort. This literature,
is, for the most part divided into studies which discuss aspects of psychological and social development of experimental participants. The chapter is presented in sections. The first section consists of problems associated with the measurement of experiential education programs; the second section consists of a discussion of Dewey's ideas as they relate to community experiential involvement; the third section consists of research studies on various aspects of experiential education programs.

Problems Associated with the Measurement of Experiential Education

In a paper presented to the American Educational Research Association, Hamilton discussed problems associated with the measurement of experiential education programs (Hamilton, 1979). He listed specific questions in order to demonstrate a hierarchy according to the difficulty of reaching the answer and the utility of that answer. They were:

1) Do participants say they have been affected?
2) Is there other evidence of effects?
3) Is there evidence that the program was responsible for the effects?
4) What about the program was responsible for the effects?

(Hamilton, 1979, p. 4)

Although level one participant responses in experiential programs may indicate "Hawthorne effects" and for this reason alone, such programs have been endorsed by at least one writer (Trow,
1971), Hamilton suggested that these types of responses constituted inadequate empirical bases for optimum programs. The second level, evidence of effects from sources other than participant testimony, was more reliable, and can be dealt with effectively by various testing instruments administered to participants and by questioning others close to them for their perceptions of how a program has affected participants. In order to add power to findings at this level, he suggested that more than one instrument be used to evaluate programs.

Hamilton advocated that evaluation studies be designed in order to obtain evidence at the third level, and suggested the use of experimental or quasi-experimental designs. The fourth level, the most valuable one, was the most difficult to measure; no studies have been designed to reach this level because of the current state of evaluation research. Until social science becomes more advanced, he felt that no one can hope to approach level four.

A number of final reports and studies of various experiential education programs demonstrated the acuity of Hamilton's observations. Much of the data exists at levels one and two; a few studies addressed level three. Christensen, wrestling with the problem at level one, focused upon, in a discussion of experiential learning at the college level, ways of translating that learning into academic credit (Christensen, 1975). In addition, he suggested the need for involvement and commitment of faculty
in non-traditional learning and mentioned ways of documenting such learning. Knapp, in discussing characteristics of students enrolled in experiential learning programs at the college level, offered suggestions for program improvement and reiterated the necessity of better defining success criteria (Knapp, 1976). She also decried the serious problems caused by poor program conceptualization; results were frequently a "lack of rationale for experiential learning, poor assessment practices, and lack of integration of experiential learning with classroom experiences" (Knapp, 1976, p. 5). Knapp advised educators not to try experiential education if they were unable to integrate it with traditional curricula.

Owens and Owen, at levels one and two, administered questionnaires in which secondary school students discussed their perceptions of essential elements in experiential education programs. Students' perceptions were that personal responsibility opportunities and informal relationships established with adults in field placements were important characteristics of successful learning experiences. Students in this study were administered an Experiential Learning Questionnaire using a critical incidents method, open-ended questions, and rating scales based upon social learning theory (Owens and Owen, 1979). The study, which involved over fifteen thousand primarily middle class white students in fifty states in experience based career education, found essentially the same factors which Conrad and
Hedin (1979) found in service learning experiences.

Sharon (1975), McKean (1975), and Frankel (1973) reviewed various technical and practical problems in the assessment process at level two. Sharon stated that most techniques used in assessing experiential learning required the judgment of a human observer and included interviews, performance tests, performance ratings, product ratings, and simulation. He felt that a major source of error was the human observer who records, quantifies, and evaluates the performance and products of the students. Both the interviewer and the interviewee were considered to be a source of error. Since the interview is a widely used measurement technique, Sharon stressed the necessity of carefully training interviewers to increase evaluation reliability (Sharon, 1975, p. 7). Sharon also said there was a need to specify that "a student must know what he must be able to do in order to demonstrate his competence in a particular subject; this responsibility rests with both the student and the institution" (Sharon, 1975, p. 8). McKean discussed the necessity of accurately assessing external actions by students in order to determine the personal internal growth taking place. He felt this can be accurately done if behavioral indicators are used to make affective objectives workable. He offered six program descriptions to show the combination of affective measurement objectives with the field of experiential education. The examples included the necessary behavioral indicators which
guide the teacher observer in recognizing and categorizing student change. Included was involvement in local communities (McKean, 1975). In an evaluation of fifty school supervised work education programs, Frankel used questionnaires for school personnel, participating and non participating employers, and participating and non participating unions. Among the policy recommendations, he suggested the development of formal structures for career exploration programs. Those programs with the most problems discovered in his study were the ones whose structures were not well formalized. He did, however, feel that the expansion of even these kinds of poorly formalized programs would help with student dropout prevention (Frankel, 1973).

In summary, the problems associated with the measurement of experiential education programs are myriad. Measurement at Hamilton's level four is probably impossible with the present state of educational research evaluation procedures; measurement even at level three is difficult. Most measurement attempts have been effectively accomplished only at levels one and two.

Dewey's Ideas as They Relate to Community Experiential Involvement

The monumental works of John Dewey provided a base for later writers advocating experiential education, that education which is based upon the learner's development, individual experiences, and involvement in his own learning. Dewey cautioned against curriculum problems centered around deviations and differences between the child and the curriculum:
first, the narrow but personal world of the child against the impersonal but infinitely extended world of space and time; second, the unity, the single wholeheartedness of the child's life, and the specializations and divisions of the curriculum; third, an abstract principle of logical classification and arrangement, and the practical and emotional bonds of child life. (Dewey, 1902, p. 21)

In overcoming these problems, he consistently advocated individual experience as being the key to students' movement through various developmental stages. When the education of students is experience based, education becomes "...a process of living and not a preparation for life" (Dewey in Cremin, 1959, p. 22). Learning is experience.

Teachers must guide students in the reorganizing or reconstructing of experience. Past experiences, needs, capacities, and interests must be the beginning point for future relevant experiences. Purposeful active education should be guided and directed into inquiry and reflection so that the student is stimulated to interact with the environment and so that growth takes place. This growth creates conditions for further growth. The learner must be actively involved in the learning process and exposed to experiences related to his previous experience.

In discussing Dewey's theories of active learning, Dworkin (1959) reiterated and reinforced Dewey's beliefs that educators
must realize the fundamental principle that school is a form of community life which should stimulate the child through his work in the community. The only "way to make a child conscious of social heritage is to enable him to perform those fundamental types of activities that make civilization what it is" (Dworkin, 1959, p. 26). Active learning and development assume paramount importance.

Fish (1972), in a study which examined the relation between Dewey's concept of self and the concept of ethical method, stressed the importance of Dewey's concept of moral education, that process of achieving wholeness through the expansion of the self in its commitment to the ideals of integrity and sociality, a process which includes moral education as character formation. The process can best be effectuated through the theory and practice of experiential education.

Effective learning is particularly well handled by service in the community. Though the bulk of Dewey's writing was published during the first half of this century, his concept of community is still viable as community life exists today. In discussing the concept of community in the writings of Dewey, Schultz (1969) emphasized, through a study of other concepts contemporary with Dewey, that Dewey's concept has an important bearing upon his recommendations for education and the informal forms of schooling activities in a democratic society. His community concepts were found to be applicable and important
for education even in the light of current urbanization and technological advancement. Contrary to some critics, Dewey's ideas were not limited to an anti-urban bias. Schultz believed that Dewey was fully aware of and anticipated the continuing technological and social-cultural changes which were taking place and continue to take place in this country.

Anderson (1972), in a similar examination of Dewey's ideas of community, rejected critics' claims of the inapplicability of his community concepts to present day educational endeavors. He also concluded that Dewey's community concepts are viable today, and developed and substantiated his thesis that the goal of Dewey's educational processes was the realization of "optimum intentional communities."

Brosio (1972), in questioning Dewey's ideas of community as existent in contemporary American society, was in opposition with the conclusions of Anderson and Schultz. He concluded that educational reform and public acceptance of Dewey's educational theories as the norm of public education in this country will not be possible unless Dewey's concept of community is built. The purpose of Brosio's study was to decide why Dewey's educational theories have not become universal public school policy in America. His conclusion was that there is no community in America; there was also no community during Dewey's lifetime. He stated that a Deweyan community could not be developed because of the chaotic industrialism which existed not only
during Dewey's lifetime, but which also exists today. He therefore felt that it was idle to speak of serious educational reform in terms of Dewey's pedagogical insights.

Wegner (1976), after a study of the writings of Dewey in the area of community concepts, reviewed a number of experience-based high school programs and concluded that:

1) The community can be a valuable resource for educative experiences.
2) The experiences of the student should be educative.
3) Subject matter should be the medium of learning rather than the object of learning.
4) The teacher should direct through indirection.
5) A positive environment should be provided.
6) Planning necessary for success in an experiential learning program should be developed.
7) Activity should be utilized as a means of progression rather than as an end in itself.
8) An experiential learning program should provide opportunities for experiences in the areas of adventure, creativity, service, practical skills, and logical inquiry.

In summary, a number of writers have examined Dewey's concepts of community and have attempted to relate his concepts to contemporary concepts and to the educational process, particularly in the area of experiential education.
One of Dewey's contributions, the conceptualization of the critical connection between experience and learning and the continued demonstration of that connection throughout his writings, has been seen by most writers to be viable and even more critical to the education today than it was in his time. The active learning advocated by Dewey, the linking of instruction to the experience and interests of the student, and the subsequent development of concepts and generalizations combine the "data of experience in a way that both effectively conveys and gives coherent (or even new) meaning to the information given" (Conrad & Hedin, 1979, p. 47).

Dewey's community concepts and his advocacy of the study of community as an arena in which conceptual associations are culled from students' experiential bases have been seen by a number of writers as avenues for the promotion of larger experiences and, subsequently, the development of high level problem solving skills.

Although one critic disagreed (Brosio, 1972), other researchers reviewed felt Dewey's community concepts were viable today.
Research Efforts on Experiential Education Programs

Research efforts involving various aspects of experiential education programs tended to be concentrated in the following areas: social growth, psychological impact upon students involved in the programs, intellectual learning, and community impact.

Social Growth Investigations

Certain investigations have revealed mixed findings in students' social growth as the result of experiential education programs.

One of the most complete and carefully conducted studies was done by Riecken (1952) on college students who were involved in two months of intensive, full-time summer experiences which were designed to strengthen humanitarian ideals by having youths participate in physically useful labor in an economically deprived community. During the experience, participants frequently interacted with community persons, lived in a communal setting, and discussed their experiences with one another. Attitude questionnaires, which were administered to students in the twenty-nine Volunteer Work Camps sponsored by the American Friends Service Committee during the summer of 1948, indicated that program objectives, for the most part, had been achieved. Participants demonstrated empathetic
attitudes toward those whom they had served and continued to act upon those attitudes after ten months. These students became less prejudiced, more democratic, less authoritarian, and more service oriented. They also developed greater ego strength. Although this intensive study, the findings of which were reinforced through behavioral observations, interviews, and other tests, was one of the most complete and carefully researched, there were, nevertheless, certain limitations to it. Only middle class college students who were involved for an intensive experience away from home, in a communal setting, for a two month period were studied. Additionally, the study was completed with no control groups. Because of the types of experiences studied, it would be extremely difficult to replicate the program in a high school within an organized curriculum setting.

Smith (1966), in a study of forty-four Peace Corps volunteers who taught in Ghana during a period of two years, discovered that after the first year in which the volunteers displayed initial and perhaps naive optimism, a more reasoned but no less committed moralistic philosophy emerged among them. Participants demonstrated more realism, autonomy and authority independence, and significantly increased levels of self-worth and insight. In addition, they became more service oriented in terms of their own career aspirations. The study was conducted with pre and posttests, student interviews, and supervisor
ratings of participants. Again, program participants, like those in the Riecken study (1952), were primarily middle class youth with college experience who may have been already committed to service oriented activities.

Another experience, in which older students were involved in communal living, was conducted by Hunt and Hardt (1969) on pre-college students from disadvantaged and/or low income families. This study of Project Upward Bound, a pre-college enrichment program for high school students from poor families, was designed to measure the attitude change, motivation change, and grade point average achievement of two groups of high school students—one white and one black. Both groups participated in an intensive eight week live-in college experience where they were studied in identical programs of academic and social situations. Pre and posttests determined that both groups achieved nearly identical increases in motivation, self-esteem, and academic achievement levels. The most significant increase was in the area of motivation (.01).

Although the three studies discussed demonstrated significant differences in the area of social growth as a result of deliberate interventions, all examined older youth in communal situations. Experiences of the participants were intensive in nature; experiences of this type would not be reasonable to include in most high school programs.

A number of studies, however, investigated the question of
whether social growth was demonstrated in youth who were involved in experiential programs of a less intensive nature which were offered as a part of the school curriculum. Several of these studies indicated positive results in the area of social growth.

Concern that the public school curriculum did not aid students in becoming effective participants in community affairs and did not develop political socialization in students, prompted Marsh (1973) to conduct a study of an experimental social studies course which included high school seniors in community affairs. A posttest only research design was used to measure the impact of the experimental course on students' political attitudes; twenty-five high school seniors who were taking the course were matched with a control group with similar intelligence quotients and grade scores. Although the study was limited by the lack of randomization in both the experimental and control groups and by the lack of a pre-test, Marsh concluded that students' willingness to become involved in political and community affairs and political attitudes was positively affected by enrollment in the course and by their experiences in community activities within the school curriculum. The course appeared to promote an interest in political activities and a desire to support political issues.

In a study of junior high school youth, Bourgeois (1978) explored the possibilities of a model of experiential citizen education for early adolescents. She suggested, through her
research, that public schools inherently have the powerful potential for developing in youth an active civic role. In attempting to develop that potential, Bourgeois constructed and tested a model of citizen education for junior high students in which combinations of in-school and field experiences were constructed in order to enhance commitment to responsible community involvement and increased personal development. The model she designed was based upon a combination of the work of Mosher in moral education, Newmann in citizen education, and Hampden-Turner in psycho-social development from Radical Man. Community awareness, guidance counseling, community involvement, and communications were the components of the model which was pilot tested to develop insight into problems of coupling civic instruction with community agencies. A racially mixed group of twenty-four male and female students was studied in the seven week research effort. Informal inventories, student and researcher logs, cooperating adult and student interviews, and The Student Perception of Civic Competence and The Self-Appraisal Inventory were utilized to collect data. Bourgeois concluded that democratic values were accepted by young teenagers, an urgency for personal competence existed, and community activities helped to develop civic competence. She recommended that additional studies should concentrate upon the coordination of civic instruction with citizen participation so that studies of this type might be replicated and so that further curriculum development in the
area of citizen participation might take place.

In order to determine whether a school's impact upon students' democratic growth might be strengthened within the educational setting, Wilson (1974) examined openmindedness and a sense of political efficacy in a community based, alternative education program (Newport Plan). In conceptualizing the idea of democratic growth, Wilson determined it to be movement toward the theoretical constructs of moral development, self-actualization and political development. Political development, which was studied in this dissertation, was determined to constitute openmindedness and a sense of political efficacy. Wilson concluded that because the learning environment became one of openness, changed authority relationships between students and teachers, and student self-selection of the subject matter and process of curriculum, the findings of greater openmindedness and political efficacy on the part of participants in the Newport Plan were able to occur. Measurement instruments included the Rokeach Dogmatism Scale, Campbell's Political Efficacy Scale, and the researcher's constructed Program Differential.

Corbett (1977) studied the effects of high school students' participation in a year long community program which aimed to develop student commitment to the solution of social problems by a combination of direct experience in social service activities ten hours per week and subsequent classroom reflection two hours per week upon that experience. He concluded, through
an analysis of the two years the program had been in operation, that although changes in students' moral and psychosocial development were non significant, the first year, in which the program was largely teacher directed showed small increases in moral reasoning developmental levels and slight shifts from highly valuing independent action to a value upon team membership on the part of participants. During the second year, the in-school portion of the course was changed to become more student centered with reflection upon personal experience and self-directed personal growth as a chief focus. During this second year, students demonstrated significant gains on personality measures, particularly in the areas of emotional and task competence. Previous volunteer experiences positively influenced students' gains in the program. Corbett also concluded that students who worked with individuals in providing service developed more commitment to the solution of social problems than did the students whose volunteer work was focused upon group leadership situations. Other results as measured by the pre and posttests with comparisons to two control groups showed a decrease in social responsibility and political efficacy with initial volunteers, no change in dogmatism, and non-significant increases in moral reasoning.

Mixed results were also detected by Stockhaus (1976) in his evaluation of a one semester community involvement program at two suburban high schools. The program sought to determine
whether twenty hours of helping in social service agencies would positively affect self-esteem, political efficacy, social responsibility, and community responsibility in high school seniors. Pre and posttest questionnaires were administered, and multiple regression analysis was used to adjust differences in background characteristics since students were not randomly selected for participation in the study. Instruments utilized were: Rosenberg's Self Esteem Scale, the author's Scale of Community Responsibility, and the Political Efficacy Scale. Stockhaus was not able to determine any conclusions upon the effects of community involvement on students' sense of political efficacy because of problems with test-retest reliability and internal consistency with the Political Efficacy Scale. A chi square analysis demonstrated that participants in the community involvement program differed in background characteristics from the control group; the voluntary nature of the community involvement tended to attract those students who had a fairly high sense of initial community commitment. After background adjustment, Stockhaus found that participants in one school developed greater senses of social responsibility, community responsibility, and altruism than did non-participants (p. < .05). No significant differences were found between participants and controls in Self-Esteem or Involvement Efficacy Scales at either of the schools. Based upon his findings, Stockhaus concluded that strong support for community involve-
ment programs to bring about positive changes in citizenship attitudes was lacking. Attitude changes generally were so small that they were of no practical significance. One problem in this study may have been that the community involvement was not linked to school instruction; additionally, participants were not given time to interact with one another and to reflect upon their experiences.

In presenting an overview of moral/citizenship experiential education programs in public schools, Broudy (1977) delineated problems which limited the effective development of such programs. The problems were ones which, perhaps, have been instrumental in many findings; they included heterogeneity of values and life styles, discrepancies between educational objectives and community behaviors, discrepancies between structured classroom teaching and students' informal community learning, and community experiences of differing intensity and quality.

In summary, the literature findings on social outcomes as a result of students' involvement in experiential education programs are mixed. Intensive, full time, communal living programs have generally proven to be more successful in changing attitudes; these programs, also, have usually included older students who may have already committed themselves to achieving program objectives, primarily because they entered the programs in a voluntary mode. Corbett's (1977) reasoning upon the non-significant findings of his study pointed out problems inherent
in much of the research on social development in high school experiential education programs and included small sample size, lack of strict controls, previous volunteer experiences on the part of some students, and uneven quality of students' experiences in the program.

Psychological Development Investigations

A number of research studies have concentrated upon the study of students' psychological development as a result of participation in experiential education programs. Taking full responsibility for one's own actions, developing a sense of self-esteem and ego strength, reaching a high level of moral reasoning, and becoming psychologically mature were seen to be key determinants for success in school and for active involvement in positive citizenship (Stockhaus, 1976). Unfortunately, traditional school curricula frequently not only do not promote these aims, but, conversely, appear to negatively affect them (Goodlad and Klein, 1970; Martin, 1975; Cusick, 1973; Silberman, 1971; Bidwell, 1965; Jackson, 1968; Sturges, 1979; Coleman, 1961).

Advocates of experiential education believe that development of psychological strength will occur more strongly in such programs than in traditional school programs (Coleman, 1974; Dewey, 1938/1972; Frankena, 1965; Piaget, 1970; Schwebel and Ralph, 1973; Rogers, 1969; Rich, 1962; Kohlberg, 1970; Erikson, 1968).

The following studies, in various deliberate intervention
attempts, sought to raise the level of psychological development among study participants.

**Self-concept Studies**

The relationship between a positive self-concept and success in educational endeavors has been one which is accepted as key to learning theories (Bloom, 1976). A number of studies of experiential education programs have noted positive results in changing students' self-concepts.

In an exhaustive study of experience based learning programs in fifty-two alternative public schools, Bontempo (1979) conducted field interviews with students and coordinators, and studied program documents from the various schools. Her conclusions were that this type of learning was clearly grounded in consistent philosophies of learning, was making valuable and extensive use of community resources in students' education, and was involving students in positive community activities for significant amounts of their time. These voluntary activities were seen to be invaluable to both the community organizations and to the students. In particular, she noted that students enrolled in such programs demonstrated positive self-concepts; both students and coordinators felt that the programs had helped to increase the students' feelings of self-worth.

Kazungu (1978) also discovered that voluntary youth helping experiences in a program of local community development promoted a more positive self-concept among youth and significantly
helped to improve the community. The results of this experiment in Uganda reinforced the findings of Bontempo and extended those findings to youth in other settings. Not only did the students feel a sense of increased self-worth, the community also benefited from their services.

Sager (1973) studied twenty-two senior high school students who volunteered for nine weeks during their summer vacations at state hospitals in working with retarded persons as assistant ward attendants, therapists, and community program helpers. Using a series of seven personality inventories which included thirty-four sub-scales and administered as pre and post tests, Sager analyzed test scores by a t-test and the Pearson r with .05 confidence level for all statistical analyses. Thirty of the thirty-four subscales were found to be significant, leading Sager to the conclusion that the self-esteem and self-confidence of young people as a result of these experiences increased significantly. Students became more self-accepting; they also felt more adequate and worthwhile in human interactions with their peers and with the persons they were helping.

Kelly (1973) also found that therapeutic helping behavior generated positive changes in self-concept and other self-perceptive dimensions on the part of the helper. Three groups of freshman college students were studied; one group participated in one-to-one relationships with retarded children; one group helped in general service projects of a more impersonal nature
on the college campus; one group was not given any helping experience. Pre and posttests were given to groups before and after the six month study; results of the tests indicated that students who helped on a one-to-one personal level underwent significantly greater positive changes in self-concept and other related measures than did those in more general types of service activities. Both groups developed in a more positive direction than did those who were uncommitted.

Cunningham (1973) studied a pilot community-career orientation program designed for fifth graders in which the community was used for field trips in the area of career education and as a combined environment for learning, in order to determine whether the program had a positive effect on students' self-concepts as measured by a self-report inventory of Gordon's How I See Myself Scale. The inventory was administered to a random sample of children who had taken the career orientation program and to a similar random sample from another metropolitan area who had not taken the program. Equivalency was assumed in the use of this non-equivalent control group design. Analysis of self-concept scores with an F ratio test and a t test determined that pupils in the program had achieved significantly more positive self-concepts than had pupils in the control group.

In order to determine whether self-concepts of students who had experienced school behavioral problems of apathy, vandalism, and delinquency would be improved by enrollment in a
voluntary curriculum within a traditional school setting, Martin (1977) employed a case study approach to a year long study of thirty male and female high school students in this experiential learning experience. By the end of the year, student behavior had positively changed as measured by teacher interviews and by students' own self-reflections as reported to the researcher. Both teachers and students believed that students had also developed more positive self-concepts as their former negative behaviors became socially acceptable.

A study by Exum (1978), in addition to investigating interpersonal behaviors and ego-development, also studied the results of systematic reflective discussions of students' helping experiences upon the development of self-concept. Forty-eight undergraduate students in a small junior college who were a part of cross-age and peer teaching experiences were administered the Fundamental Interpersonal Relationship Scales, Personal Orientation Inventory, and Loevinger Sentence Completion Form. Pre and posttests were given to the twenty-four experimental and twenty-four control group subjects. Conclusions indicated that a combination of actual experiences and systematic reflective discussions were the most important components in the curriculum, and that participants showed significant growth in self-concept and ego-development.

Three of the studies which investigated various aspects of experiential education programs upon the self-concepts of
students found that no significance was recorded. Chiosso (1976) studied a group of fifteen experimental and thirty-six control group students in an elective one semester psychology high school course in order to develop and evaluate a psychological experiential curriculum in interpersonal relationships. By learning interpersonal (communication) skills, the researcher theorized that psychological growth would be promoted among the experimental group. The control group participated in classroom lecture-discussions in theories of counseling while the experimental group received additional training in role-taking skills and structured reflection upon the learning. Pre and posttests were given on the following measures: Loevinger's Sentence Completion Test, Rest's Defining Issues Test, Feffer's Role Taking Tasks, Hogan's Empathy Scale, and Johnson's Group Climate Questionnaire. Additional assessment of experimental group students was made on the Newberg-Borton Affective Measures of Class Climate. Pre and posttest differences for the experimental group were non-significant. A significant difference, however, emerged between the controls and the experimental students because control group scores decreased on the posttest.

Saunders (1976) investigated whether or not junior and senior high school student tutors would demonstrate a positive attitude change in self-concept, in reading, and toward school when compared to student non-tutors. The tutors were administered pre and posttests of a semantic differential instrument
over a sixteen week period; a $t$ test was used to compare results from the instrument. No significant changes in attitude toward reading, self-concept, and school were found; because, however, no decrease occurred, Saunders concluded through implication that the program had an effect on maintaining positive attitudes.

Soat (1974) examined, with sophomore undergraduates enrolled in an introductory college psychology course, whether or not one's cognitive style and self-concept were related to expressed willingness to help others. This expressed willingness to help was measured by the amount of time students agreed to donate in order to help a doctoral student who needed assistance to complete his dissertation. The Hidden Figures Test was used to assess cognitive style. Soat found no significant relationship between cognitive style and expressed willingness to help, nor did he find a significant effect on cognitive style to the extent that one is willing to agree with information concerning one's personality.

In summary, the research evidence does give some indication that experiential programs may have a positive effect upon the development of a positive self-concept in those students' involved in such a program. More research must be done in order for that evidence to be definitive.

Moral Judgment Studies

Another aspect of psychological development which has been studied is the area of moral judgment. Again, the results are
mixed; the majority of studies, however, indicate that exper­
iential education programs may have a positive impact upon the
development of moral judgment.

Alexander (1977), in a study which investigated whether
or not moral thinking, ego development, and the lessening of
prejudice in youth could be changed by an alternative education
curriculum approach to the problem of prejudice, discovered
that the experiential curriculum did have a significant effect
on ego and moral development in adolescents who participated
in the study. In addition, prejudice in these students was
significantly decreased. The fourteen junior and senior high
school students who took the alternative course role-played
another's point of view, thought about moral dilemmas which
involved prejudicial issues, and were given field-placements
where they applied their studies about moral theory as taught
in the course. Alexander based the curriculum of this sixteen
week psychology course on the ego development theory of Loevinger
and the moral reasoning theory of Kohlberg. Data collected on
study participants concluded that those determined to be highest
in moral reasoning demonstrated less prejudiced attitudes. In
addition, significant changes were discovered in moral reasoning,
ego development, and lessening of prejudice between the experi­
mental and control groups. The five instruments used in the
pretest and posttest were: Kohlberg Moral Judgment Interview;
Loevinger Sentence Completion Form, a measure of ego development;
and three instruments to measure prejudice—Social Problems Questionnaire, Reactions Test, and Association Questionnaire.

In studying whether group discussion by students of different maturity levels might bring about positive changes in their moral judgment, Pierce (1972) pre-tested one hundred sixty seventh graders using Johnson's Test of Moral Maturity, and assigned those above the median to the mature and those below the median to the immature group. From these two pools, students were then assigned to four control and four treatment groups; in the treatment groups, ratio groups were identical except for the treatment, which included a one hour discussion where moral judgment situations were presented to students and then discussed by them. After a posttest, Pierce concluded that the discussion of moral dilemmas did contribute to positive change in the students. Ratio groups were made up of various combinations of mature and immature students; i.e.—groups varied from cells containing one mature student and four immature to cells containing four mature and one immature. A significant difference (.05) was observed in students who discussed moral dilemmas as opposed to those who did not. The study tested the effects of intervention based upon Johnson's interpretation of Piaget's theories.

Edwards (1974), in a study of experiential education as it relates to moral development, explored the influence of environment upon moral reasoning development. Utilizing variations of
Kohlberg's moral judgment interview, Edwards studied one hundred three high school and university students in Kenya. By using a correlation analysis, and controlling for ethnic group, level of school achievement, age, and sex, she tested and confirmed the following hypotheses relating to the effects of intellectual and social experiences:

1. Students who attended multicultural secondary schools displayed higher levels or moral judgment than did students who attended ethnically homogeneous schools.

2. An atmosphere of mutual trust and cooperation stimulated students in preconventional (stages one and two) reasoning postures to develop toward more adult postures (stages three and four).

3. Students who resided at boarding schools displayed more stages three and four moral reasoning than did students living at home.

4. Students who studied law and social sciences displayed more stages three, four, and five moral reasoning development than did students who studied primarily science and engineering.

The study demonstrated that schooling and experiences in multicultural settings tended to help students to develop higher forms of moral reasoning; higher forms of moral reasoning were taught by direct experience and by example.

Mixed results were discovered by Lewers (1979) who compared
two groups of college students enrolled in two different courses--recreation and introductory education--which utilized an experiential multidisciplinary design. Using the following instruments (Locus of Control test, Social Self on the Tennessee Self-Concept test), to measure the personal growth factors of values, moral judgment development, self-concept and locus of control, Lewers found that the group which received specific experiences with a methodology that attempted to change values, moral judgment development, and self-concept improved significantly on social and physical self on the Tennessee Self-Concept test and on internal change on the Locus of Control test. (p = <.05) The other experimental group experienced no significant change on any measure. Problems which occurred in the experiment because of the small number of students involved (seventeen in one course and thirteen in another), lack of researcher control over experimental conditions, and difficulty in selecting adequate measuring instruments may have contributed to the mixed results. Lewers did, however, conclude that the experiences had little value for personal growth changes of participants.

Toner and Potts (1978) also found no significance in a study of seventy-two five to seven year old boys who were assessed for the impact of adult models on the development of their moral judgment. Subjects were exposed to one of four televised adults expressing immature and mature rationales for
either deviating from or adhering to a prohibition. For example, one model said he would not deviate from a prohibition and supported this with a justification based upon punishment/reward (morally immature justification); another said he would deviate, but based this upon a morally mature justification, focused upon reciprocity. Toner and Potts found that subjects' moral judgment levels were not significantly changed by the models; subjects' moral behaviors were predictive of their moral choice, but moral judgment level was not significantly related to the other two indices of morality. Subjects tended to identify with and to imitate moral choices in immature models.

In order to determine whether or not participation in a school service program was positively related to moral development, whether the amount of time given to service was related to students' positive moral development, and whether students with little experience in service activities experienced more moral development than students with more prior experience, Reck (1978) studied one hundred twenty-four students in three school service programs of varying length (fifteen-eighteen hours, forty-two hours, and one hundred five hours). Using a posttest design on the subjects and on a group of thirty-four control subjects from the same schools, Reck measured the students' levels of moral development with a Defining Issues Test. Students enrolled in service programs also completed a personal questionnaire which included questions related to
service experiences. Although the greatest growth was associated with the most service, only two of the sixteen independent variables indicated significant differences. 1) Students who pretested low in moral development demonstrated greatest gains in the posttest. 2) Students who served only during the program in their assigned tasks showed significant growth. The general lack of significant results may have occurred because the study was not well controlled. Only middle class students were involved in small programs for varying lengths of time in personal services not related to their regular academic learning and not discussed with peers involved in the same programs. Additionally, all of the subjects were juniors and seniors in the one non-public school in town. Also, subjects involved in the personal service programs were not pretested; their posttest scores were compared with scores of control group subjects.

An interesting study by Eisenberg (1976) explored the discussion of four prosocial moral judgment problems and one Kohlberg based dilemma with fifty-three elementary and seventy-two high school students in order to identify a number of hypotheses involving the development of pro-social moral reasoning behaviors. After performing a factor analysis of varieties of verbalized prosocial moral considerations by the students, Eisenberg found that the data seemed to show that a close association existed between reasoning about behavior and actual choices of behaviors. This finding was contrary to Kohlberg's
belief that the level of moral judgment is not related to what the subject believes that he or the story subject would do in a moral dilemma. She also found that subjects operating at lower levels of behaviors (levels one and two) tended to discriminate against groups and individuals with whom they had no surface similarity. Although parents' utilization of inductions was unrelated to the level or moral reasoning among their children, Eisenberg found that parents who stressed and demonstrated their concern with children's high achievement and use of self-directed behaviors seemed to have children who developed more natural moral judgment. Where fathers were remote and authoritarian, daughters tended to develop rather high levels of prosocial reasoning; conflict among fathers and daughters tended to amplify this development. In addition, mothers who demonstrated a great deal of affection and other sympathetic behavior tended to have children who developed more mature moral reasoning abilities.

Although the research results in the area of moral judgment are mixed, they do tend to indicate that deliberate intervention programs may have an impact upon the development of moral judgment. What has not been answered are the questions of what are consistently effective ways in which moral judgment may be developed; what types of students will benefit from what programs; and what formats will be most successful.
Several studies have explored the relationship which has been assumed to exist between experiential learning and students' intellectual development. Few of these studies demonstrate any significance.

Houser (1974), however, recorded significant gains in an experimental over a control group in the development of both reading skills and self-concept. In a study of seventh and eighth grade students participating in a student-aide program involving elementary school students, Houser investigated whether those students would experience significant gains in reading skills and in self-concept during a six month study. Pre and posttests using the Gates-MacGinitie Reading Test and the Piers-Harris Children's Self-Concept Scale were administered, and analysis of variance was applied to raw means and to posttest minus pretest difference means. On the basis of his findings, Houser recommended that the student aide program be extended to all schools in the district he studied.

Lewis (1977) also recorded significant gains in his investigation of whether learning by doing (experiential learning) was as effective a method of teaching subject matter concepts to adolescents and adults as was expository learning. Although, in a number of situations, expository learning was effective, learning by doing coupled with receipt of procedural knowledge learned both by declarative and procedural knowledge was more
effective. Lewis concluded that learning by doing, with proper instruction on the part of the teacher, was frequently more effective in the goals of student learning than purely expository learning.

Other studies, however, found that experiential learning rarely was more significantly effective than was learning by other methods as measured by students' knowledge gains.

Wise (1970) compared achievement of two hundred sixty-one elementary school students in a study designed to determine whether experiential outdoor education experiences would produce significantly higher scores in the increase and retention of knowledge expected in the course objectives. Pre and posttests were administered before and after the three month experiment. Wise concluded that the experiential outdoor method did not produce significantly higher scores than did the traditional classroom instructional method; additionally, there was no significant difference in retention of knowledge between the experimental and control groups.

Braza (1974) studied fifteen experimental and eight control group students in an attempt to discover significant gains in knowledge, behavior, and attitudes recorded as a result of an experiential community based learning procedure. Control group students received traditional classroom instruction in health problems of disadvantaged groups. The experimental group students were given intensive community experiences. Posttest results
demonstrated that both methods were equally effective in promoting knowledge gains; in addition, both groups expressed essentially identical increased commitment to the study of health problems of disadvantaged persons.

Korn (1975) studied the effects of experience based learning on students' cognitive growth in three college psychology courses taught in a traditional manner and in one course taught in an experience based manner. Students in the experience based course were given a nine member teaching team, guided experiences and exercises rather than lectures, and grades based upon evaluation of student-selected learning products. Most of the time in the experiential learning class was spent in small groups, while most of the time in traditional classes was spent listening to teacher lectures. Students were measured before and after the semester course by a paper and pencil exam and by Jackson's personality research form. No significant differences were found on any measures. Surprisingly, students enrolled in the experience based course, in interviews, displayed some irritation with the instructors, believing that less information was presented to them than they had received in the past with the lecture method. Korn concluded by discussing the possibility that some students need more formal structures, and that more experimentation and evaluation of alternative classroom methods was needed before their superiority may be claimed.
In order to determine whether higher levels of moral development in high school students related positively to their success in school, White (1975) administered the Defining Issues Test (D.I.T.), which was developed by Rest, to three hundred eighty-four senior high school students and sixty-two teachers from the same urban high school. The test was administered to determine the level of moral development in both students and faculty in order to examine problems which might result from interaction between them. In addition to the D.I.T. scores and cumulative grade averages, an ability level was determined for each student by using the Short Test of Educational Ability. White analyzed data with the Pearson Product Moment Correlations, partial correlations, and analysis for covariance. Partial correlations and covariance were used to control for students' levels of ability and to examine the effect of moral development on school success. The researcher found significant relationships between:

- students' levels of ability and levels of achievement
- levels of ability and behavior problems
- levels of moral development and levels of achievement
- levels of ability and levels of moral development
- levels of achievement and frequency of behavior problems

In these cases, levels of high moral development as measured by the D.I.T. reflected in high levels of achievement, grades in
social studies classes, and low incidence of behavior problems as seen by teachers.

The significance of this study, while not relating to the superiority of either the experiential method or to the traditional one, may still have implications for experiential education. Since a number of studies indicated that levels of moral development may be raised by experiential methods, and since White found that high levels of achievement were coupled with high levels of moral development, it follows, therefore, that raising levels of moral development might also raise levels of achievement in students. In addition, decreasing students' behavior problems by raising levels of self-concept may also pave the way for the raising of achievement levels in students involved in experiential programs. One of White's findings was that a low incidence of behavior problems was seen in students with high levels of school achievement.

Thus, although studies rarely indicate that experiential education programs are successful in raising students' cognitive abilities, school achievement may still be raised by experience in experiential education programs indirectly through the increase in both self-concept and level of moral judgment.

Community Impact Investigations

One of the chief claims of the proponents of experiential education is that such programs produce a positive impact upon community by providing needed services and upon students by
helping them to develop feelings of importance as a result of their work in communities. Also, students' attitudes toward those whom they serve will become more positive as a result of their experiences.

A number of studies have investigated attitude changes in students as a result of community work as a component of experiential education programs.

Ellington (1978) studied the effects of contact with and education about the elderly in three experimental classes of approximately twenty-five high school seniors in order to determine whether their attitudes would positively change during a period of nine weeks. The three groups were compared with a control group which received no direct contact with the elderly. The experimental groups (B, C, and D) received a program which utilized the services of old persons. All groups received instruction from one old person each week on a topic in the area of social studies. Groups C and D additionally received a two-week mini-course which focused upon problems which the elderly experienced; group C was taught inductively and group D was taught deductively during the mini-course. All groups were pre and post tested using the Kogan Attitudes Toward Old People Scale and the Golde-Kogan Sentence Completion Test for Assessing Attitudes Toward Old People. Analysis of variance was completed on posttest data to determine whether group differences resulted from treatment, and the Scheffe Multiple Range Test was used to
determine the location of group differences. Although no differences were discovered between students who received only contact with the elderly and the control group, and none were discovered between the attitudes of the two groups receiving inductive and deductive teaching, the study did find that a combination of contact with the elderly and learning about their problems appeared to positively change young people's attitudes. Ellington recommended that more work in the area of the elderly, and more contact between them and adolescents would be beneficial to both groups. He concluded that education can improve young people's attitudes toward the elderly. Groups receiving instruction about the problems of the elderly and contact with them tended to think about them as more like the "general adult population as opposed to thinking of the elderly as apart from other adults" (Ellington, 1978, p. 74). Young people feeling this way tended to give up the stereotypes that youth feel for old people who are "different" from themselves.

Glass and Trent (1979), in a study conducted on ninth grade students enrolled in a social studies class which focused upon a two week unit in problems of the aged, determined that adolescents' attitudes toward the elderly can be changed through classroom experiences. Although the authors discovered that ninth graders' attitudes were not as negative as they expected, those attitudes still changed in a positive direction as a result of the course. In addition, attitude changes persisted over a
period of six months. The conclusion they reached is that youth can develop more positive attitudes toward the elderly through a program of planned educational experiences.

Owens (1979) administered a pre-test questionnaire in order to determine whether or not student attitudes toward academic and vocational goals would change in a positive direction after involvement in a year long experiential learning program. Thirteen students who were given intensive, full-time positions in social service agencies comprised the experimental group and were compared to a control group of sixteen students from the same three colleges and areas of academic majors. Owens concluded, after examining the data and after conducting group discussions of an evaluative nature, that students in the experimental group experienced significantly larger attitudinal changes than did the control group in the areas of more positive self-confidence and more clarity in educational direction and career paths. Although more study is needed, Owens concluded that experiential learning in social service agencies may provide for increased self-confidence, for motivation between academic subjects and individual student interests and goals, and for better feelings about individuals served in social service programs.

Two reports on the Classrooms beyond Walls Career Education Project recommended that community involvement be more fully developed since it is an essential part of alternative type
education programs (Mamaroneck Career Education Project, 1976). In addition to serving in valuable community helping programs, students felt better about themselves and their service toward persons within the community. In addition, they tended to become more involved in community decision making.

Shoup (1978) discussed various ways in which community-based service learning at the level of the secondary school may be implemented, and offered practical ways for teachers to develop community experiences for students. She saw service learning experiences as viable alternatives to the set secondary curriculum; they might serve as valuable methods for expanding the traditional classroom experiences and might aid students in the development of citizenship attitudes. Shoup believed that, although it is difficult to measure precisely the value of community-based experiences, those experiences may be easily adapted to a competency-based curriculum. Under such a curriculum, students master a defined skill; community based service learning skills may be easily defined within such a curriculum.

Clayman (1968) in a study of training pre-service teachers to become familiar with community resources in order to utilize them in subsequent teaching and in order to provide their students with community based experiential education, discovered that although student teachers were committed to using the community as a resource, supervision of their activities was complex and difficult. He concluded that the use of such resources as
an arena for teaching and for student growth involved a great deal of planning and cautioned against attempting such use without prior intensive planning.

After an initial screening of twenty-five experiential education programs from various cities, Conrad (1979) chose eleven for intensive study. The programs selected were those which encompassed a wide variety of student experiences, program features, and subject populations.

The eleven programs from nine schools involved more than six hundred students in nine experimental and four control groups; foci included community service, outdoor adventure, career exploration, and community action. Common programmatic features included a life span of at least five years, reputation for excellence, and integration as part of the regular school curriculum in which emphasis existed on "learning through doing with associated reflection" (Conrad, 1979, p. 248). Measurement instruments used were: Defining Issues Test, Janis-Field Feelings of Inadequacy Scale, Rosenberg Self Esteem Scale, Social and Personal Responsibility Scale, three semantic differential scales, Owens' Career Exploration Scale, Problem Solving Inventory, and self-reports of subjects. Data analysis included two segments: 1) pre and posttest results were compared for experimental and control group individually, combined, and by comparison with four control-experimental sets used in the study, and 2) specific program features were examined for their impact
upon score changes. These elements were: type, length, "intensity of experience, existence of reflective component, student demographic characteristics, and the specific characteristics of individual experiences" (Conrad, 1979, p. 249). T tests, analysis of variance, and multiple regression were utilized for analysis of data. Conrad discovered that students demonstrated statistically significant growth in moral reasoning, in two measures of self esteem, in career maturity, in social and personal responsibility, and in attitudes toward adults, toward community activity, toward others, and toward analysis of problems.

Conversely, control group students demonstrated significant growth on only the Janis-Field Feelings of Inadequacy Scale and Career Information subscale. Experimental students gained more than those students enrolled in conventional programs on every scale and subscale in the testing series.

Conrad's summary is worth repeating here.

The overall conclusions of this study are that experiential education programs can promote social, psychological, and intellectual development, that they appear to do so more effectively than classroom-based programs, and that the key factors in promoting growth are: 1) that the experiences be significant and provide for the exercise of autonomy; and 2) there be opportunity for active reflection on the experience.

These findings give added meaning and validity
to the definition of experiential education offered in Chapter One of this study. There they were described as 'educational programs offered as an integral part of the general school curriculum, but taking place outside of the conventional classroom, where students are in new roles featuring significant tasks with real consequences, and where emphasis is on learning through doing with associated reflection' (p. 13). This definition may now be modified to state that programs which conform to this definition of experiential education tend to lead to student growth and development...(Conrad, 1979, pp. 257-258)

Conrad's study was extremely complete and well researched. His conclusions clearly demonstrated that experiential education programs, when carefully conceived and intelligently measured, can have significant impact upon students' growth in the area of community impact as well as in other areas which have been discussed in the present study.

Two other studies in the area of community impact presented results which are not as positive.

Keene (1975), in a study which examined whether students who were involved in an elective sociology high school course where classroom instruction was coupled with five hours of volunteer direct experience per week for one semester at various social agencies, examined whether these students would have a more positive attitude change toward poverty and minority
problems than students who took only a required political science and economics course. She concluded, that although positive attitudes can be developed through high school social studies courses, students involved in direct community experiences did not display significantly greater attitude changes than did the students enrolled in the classroom sociology course. Students enrolled in the elective sociology course, however, demonstrated more positive initial attitudes and continued to be more positive than the students enrolled in the required course. Various scales used in the measurement were: Social Situations Scale, Humanitarianism/Liberalism-Conservatism Scale, Dogmatism Scale, War on Poverty/Black Scale, and Anti-Negro Scale. Even though significant changes were not measured, students, agencies, and parents involved in the community experience course recommended that it be continued because of additional advantages to the students and the community. It was perceived by those persons as a positive, community helping experience which showed that youth were interested in helping in their communities.

Only one study demonstrated negative results in the area of possible community impact. Newman (1978), in order to determine whether experiences with severely emotionally disturbed children where elementary school children received information concerning their problems helped in fostering more positive attitudes, conducted a study with two hundred five regular students in an urban elementary school, grades one through six.
Although all regular students received classroom instruction in a series of classroom lessons about handicapped children, only half of the children were randomly assigned to direct experiences with ten severely emotionally disturbed children who were enrolled in the same school. Newman discovered that younger children (first graders) who received information only were the prime initiators of positive behavior interactions with the emotionally disturbed children. The tentative conclusion was that experience with the emotionally disturbed coupled with information presented during classroom instruction was non-significant; the only difference seemed to be age of the children. Younger children appeared to be more positive in developing helping attitudes toward the emotionally disturbed. One reason for these findings may have been that elementary children are not able to handle frequently disturbing encounters with emotionally handicapped youngsters; such children frequently act out hostile behaviors which may be perceived by elementary children as directed against them personally. Such an experiment, if conducted with more mature youth, may have discovered different results.

In summary, the findings on community impact are primarily positive, indicating that young people enrolled in experiential education programs which focus upon making a difference in terms of community do, in fact, positively affect community members. In addition, the attitudes of young people frequently are sig-
significantly changed in the process of helping others.

SUMMARY

Chapter II examined the case for experiential education through a selective review of relevant research. Research efforts concentrated upon problems associated with the measurement of experiential education programs, discussion of Dewey's theories as they related to community experiential involvement, and research studies involving various aspects of experiential education programs.

The first section focused upon problems which appear in the measurement of experiential education programs. In support of the difficulty of measuring such problems, Hamilton (1979) and Knapp (1976) were cited as persons who delineated the need to carefully design evaluation studies which might obtain evidence at the third level, that which will involve the use of experimental and/or quasi-experimental designs. Other writers who discussed the complexity of measurement techniques were also included in the discussion. Stress was laid upon the fact that most measurement attempts have been accomplished only at levels one and two.

The second section discussed the theories of John Dewey as they related to community experiential involvement, and presented the examinations of contemporary advocates of those theories. Those advocates generally agreed that Dewey's concepts were still viable as touchstones for school based experiential
education programs.

The third section discussed selected research on experiential education programs in the areas of: social growth, psychological impact upon students, intellectual learning, and community impact.

Although research on social growth was mixed, those programs which involved older students in communal living situations were the most successful in changing attitudes. Students in those programs, additionally, were primarily there in a voluntary mode. Problems which impacted perhaps on research findings included small sample size, lack of strict controls, previous volunteer experiences, and uneven quality of students' experiences.

Studies which attempted to raise the self concept and the level of moral judgment in students were discussed in the section on psychological learning. Self concept studies indicated some support for the idea that this construct is amenable to direct intervention. Noteworthy were the studies by Bontempo (1979) and Kazunga (1978) because they clearly demonstrated that youth in various settings, under controlled conditions, did experience increased levels of self concept development. A number of additional research attempts supported the theory that self concept may be raised, while three found that students experienced no significant change. In order for the evidence to be definitive, additional research must be completed.
Although research in the area of moral judgment was also mixed, the majority of studies reviewed seemed to indicate that deliberate intervention can help to increase students' levels of moral reasoning. Answers still need to be found to the questions of what are consistently effective ways in which moral judgment may be developed, what types of students will benefit from what programs, and what formats will be most successful.

Studies in the area of intellectual learning were sparse. Those which existed indicated that experiential education programs are rarely successful in raising students' achievement levels beyond that which is experienced in conventional education programs. The argument can be raised that school achievement may be positively affected by students' increases in self-concept and levels of moral judgment; both of these have proven to be amenable to change through experiential education programs.

Community impact investigations indicated that young people enrolled in experiential education programs did have a significant effect upon improving community life and, in the process, an effect upon their own attitudes toward community persons, particularly toward the elderly.
CHAPTER III
METHODOLOGY

This study was designed to measure selected changes in students as a result of participation in community learning/service experiences and follow up reflective seminars completed as part of their regularly scheduled classes in an urban comprehensive high school of over two thousand students. It attempted to determine whether students who experienced thirty hours of direct involvement in community service activities displayed more positive attitudes toward learning than students who did not experience community service activities.

The following hypotheses were tested:

$H_{01}$: There is a difference in attitudes toward school, toward helping others, and toward future life goals as measured by three attitude scales between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.

$H_{02}$: There is a difference in the level of active community involvement and students' commitment to the educational goal of responsible citizenship as measured by better school attendance between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.
Ho3: There is a difference in the level of active community involvement and students' commitment to the educational goal of responsible citizenship as measured by fewer school disciplinary offenses between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.

This chapter includes a description of the study population and sample, definitions, instrumentation, procedure, data coding, research design, and data analysis.

**Study Population and Sample**

The initial sample for this study consisted of three hundred male and female urban high school students between the ages of fifteen and eighteen who were randomly assigned to individually scheduled classes in a comprehensive metropolitan high school with a total student population of over two thousand students.

The school, which was built in 1966, was accredited in 1969 and again in 1979 by the Middle States Association of Schools and Colleges. During the first five years of its operation, seventy percent of the population consisted of middle class Jewish youth from the surrounding neighborhoods; the remaining thirty percent were mainly middle class black youth who were bussed in from other areas of the city.

As the fabric of the city changed and middle class Jews
and blacks moved to the suburbs, the school's population shifted. By 1980 ninety-four percent of the students were black; nearly half of those students were eligible for free or reduced price lunches indicating that family incomes were at or near the poverty level. Many families were headed by women who worked at semiskilled and unskilled occupations. Nearly one third of the families, however, included parents who occupied professional, managerial, or clerical jobs.

Because of the shift in the school population's racial, income, and parent educational levels, neighborhood residents, mainly elderly Jews, became openly hostile to the school. In order to alleviate the hostility, the school principal called community meetings. Collaboration between school and community residents resulted in the formation of the CAST (Community and School Together) Project, a multi-faceted approach geared toward fostering better human relations. The program, which focused upon community service, a community evening school, student and community problem prevention, and a twenty-four hour "trouble" hotline, has been responsible for the subsequent development of a close bond between students and neighborhood residents.

Attempts to upgrade the school's program have resulted in the establishment of an accelerated college preparatory course, a college "credit in escrow" program, an Air Force Junior ROTC, and a vocational education component. All of these offerings
require a strict schedule of course selections.

Nearly sixty-five percent of the students, however, still chose the general course of study in 1980. This course requires four credits of English, three of social studies, two of mathematics and science, one of physical education and survival skills. The remaining seven credits required for graduation by the state of Maryland are electives chosen by students in any area they wish.

Despite attempts by guidance counselors and teachers to direct "general" students into related electives geared toward future careers, many students continued to select a hodge podge of courses which prepare them inadequately for careers, and, should they desire to attend college after graduation, for higher education.

This study, therefore, eliminated students enrolled in vocational education, college preparatory, and Junior Air Force ROTC programs as subjects because these groups were currently receiving educational concentration in their areas of specialization. Approximately seven hundred students were thus eliminated from the study.

Students remaining, approximately thirteen hundred enrolled in the "general" course, became the population for this study. These were the students for whom no special preparation for either college or vocation was being given. They were the ones who were not being effectively prepared for the environment
they will enter after high school (Coleman, 1974, p. 2).

These thirteen hundred students were randomly assigned to required courses in the areas of mathematics, English, social studies, science, survival skills, physical education, music, and art. Of the thirteen hundred, three hundred were chosen as the sample population.

It is important to note that these students, as were all students in the school, were scheduled via computer to individual courses they had requested the previous spring. Entire class experimental groups described shared only the class from which they received community assignments. For example, thirty students who were enrolled in a course in United States History would be together during the school day only in that one class. Individual students might share other classes during the day, but all thirty would not be together as a group.

One hundred fifty were selected as the control group and one hundred fifty were selected as the experimental group. The experimental subjects were selected from a random sample of entire classes; the entire class groups were involved in experiential community based learning/service activities for thirty hours during the period of September 8 through November 20, 1980 (one school quarter).

The comparison group (control) was made up of students who were not involved in the experiential program. These students were enrolled in the same types of classes as the experi-
mental group. During the experiment, they received the similar kinds of classroom experiences as the experimental students. They were not, however, involved in community based learning/service activities. The students in the control group were similar to the experimental group in age, grade, sex, and socio-economic status. Control group students were told that they were being pretested because there was a possibility that they might be assigned to community based learning/service activities; they were also told during the course of the experiment that there were not enough placements for them to be assigned during the fall semester. During the posttest, they were advised that they were being measured to continue preparations for future community based learning/service activities. They will, in fact, begin such activities in the spring semester.

Twenty-four of the original one hundred fifty control subjects did not take the posttest. Seven students transferred to other schools; eight transferred to other classes within the school; five were absent from school during the three different days the posttest was administered; four students did not complete all sections of the posttest and their posttests, therefore, were not used. The number of questionnaires (and accompanying Record Review Forms) used as data for this study totaled one hundred twenty-six, or 84 percent of the original control sample.
Fourteen of the original one hundred fifty experimental subjects did not take the posttest for a variety of reasons. Five students transferred to other schools during the learning/service period; six students dropped out of the experience; three students were not placed in experiential programs. The number of questionnaires (and accompanying Record Review Forms) used as data for this study totaled one hundred thirty-six, or 90.7 percent of the original experimental sample.

Table 2 delineates the status of pre and posttest administrations:
### Table 2

Status of Pre and Posttests: Initial Administrations, Eliminations, and Final Administrations

<table>
<thead>
<tr>
<th>Control Group</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Administrations (September, 1980) Pretest</strong></td>
<td>150</td>
<td></td>
</tr>
<tr>
<td><strong>Eliminations:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transferred to Other Schools</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Transferred to Other Classes</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Absent During Posttest</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Incomplete Posttests</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Useable Questionnaires (Sample Size - Control Group)</strong></td>
<td>126</td>
<td></td>
</tr>
<tr>
<td><strong>(Final Administrations - Posttest)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Experimental Group |               |               |
| **Initial Administrations (September, 1980) Pretest** | 150           |               |
| **Eliminations:** |               |               |
| Transferred to Other Schools | 5             |               |
| Dropped Out of Experience | 6             |               |
| Not Placed in Experiential Programs | 3             |               |
| **Useable Questionnaires (Sample Size - Experimental Group)** | 136           |               |
| **(Final Administration - Posttest)** |               |               |

**Total Sample Size**

| Control Group (84% of original sample) | 126           |
| Experimental Group (90.7% of original sample) | 136           |
Definitions

The following operational definitions were used in this study:

Experimental group: Students who left the high school for thirty hours of community learning/service experiences in one school quarter.

Control group: Students who did not experience community learning/service activities.

Attitudes: Three instruments from the "Experiential Education Questionnaire" published by the Center for Youth Development and Research at the University of Minnesota were utilized to measure changes in attitudes.

Attendance: Attendance was measured by counting the number of students' days not present in school during the period of community learning/service experiences as compared with attendance during the previous school quarter. (Service activities took place within a period of ninety school days, one school quarter.)

Disciplinary offenses: Disciplinary offenses were defined as the number of times a student was referred to the school office by teachers during the quarter he was engaged in community learning/service experiences as compared with the number of disciplinary offenses during the previous school quarter. Reasons for which students are normally referred to the school office are: cutting class; fighting; verbal and
physical assaults on teachers, students, or staff; classroom disruption; smoking in the school building; drinking alcoholic beverages on school property. (Minor offenses such as gum chewing and lateness to class were not considered to be true disciplinary offenses and were not counted as such in this study.)

Instrumentation

Two instruments were used to collect data: three sub-scales of the "Experiential Education Questionnaire" and a Record Review Form.

The "Experiential Education Questionnaire" was developed by researchers at the Center for Youth Development and Research at the University of Minnesota in order to assess the impact of experiential education programs on student attitudes and learning. Diane Hedin, who constructed the instrument with Dan Conrad, found that there existed "little 'hard' data about the impact of experiential learning programs on student participants" (Hedin, 1980, p. 1). Her study, the Evaluation of Experiential Learning Project, was undertaken to develop an instrument to assess the importance of experiential education programs on various aspects of behavior, attitudes, and psychological development of high school students. The instrument was given by Hedin to over four thousand students who participated in thirty different types of experiential learning programs throughout the country. She validated the instrument on those students.
The current study employed three sub-scales of the "Experiential Education Questionnaire": the Career Exploration sub-scale, the Janis-Field Feelings of Inadequacy sub-scale, and the Social and Personal Responsibility sub-scale.

Student attitudes toward future life goals were measured by the Career Exploration Scale of the Questionnaire (Appendix A). This scale was adapted from the Student Attitude Questionnaire developed originally by the Education Work Program of the Northwest Regional Laboratory, Portland, Oregon (NWAL, 1978). Conrad and Hedin (1980) selected the fifteen items which focused on actual behaviors in planning and exploring careers. Items one through seven were determined to be Career Action items, items in which students were involved in experiential activities such as observing those employed in the career field, attempting tasks in the field, and talking with people in it. Items eight through fifteen were designated as Career Information items, items in which students explored careers through traditional methods such as films, reading and lectures. "The responses to the Scale are most conveniently reported as a single score calculated by assigning the possible responses, 'never' through 'more than once a month', numbers one through five" (Conrad and Hedin, 1980, p. 14). The Career Exploration Scale focused upon behaviors in planning and exploring careers rather than on self-reports concerning attitudes toward work and careers. It was, therefore, viewed as a more appropriate assessment of
the relationship between experiential programs and career development than traditional measures. The fact that item analysis was not done was not viewed as a serious deficiency because the items are simple descriptions of career related behaviors. A correlation of $r = .93$ was produced as test-retest reliability (Conrad and Hedin, 1980, p. 14).

Student attitudes toward helping others as measured by social and personal responsibility were assessed by the Social and Personal Responsibility Scale (SPRS) of the Experiential Education Questionnaire (Appendix A). This scale was developed by Conrad and Hedin to more directly relate to experiential learning that students experience in community based service/learning programs than the most widely used attitude scale, the Social Responsibility Scale (SRS) of Berkowitz and Daniels (1964). The SRS tends to focus only on attitudes, to elicit what subjects determine to be socially desirable responses, and to thrust strongly on general referrents of responsibility (Berkowitz, 1965). The SPRS of Conrad and Hedin includes in the concept of responsibility the dimensions of attitudes, competence, and efficacy; it is built upon the assumption:

that a person will act in a responsible manner when the following conditions are present. First, one must feel a sense of responsibility or have a responsible **attitude** toward others in the society. Second, one must have **competence** to act upon this feeling of con-
cern for others. Finally, one must have a sense of efficacy, which allows one to believe that taking action and feeling concern can make a difference.

(Conrad and Hedin, 1980, p. 2)

The SPRS scale measures these areas on a four point scale with one as the lowest and four as the highest score. Items two, seven, eleven, and fifteen measure social welfare, and items one, ten, seventeen, and twenty measure duty--one's concern with the meeting of social obligations. All of the above items are concerned with measuring attitudes toward responsibility. Items nine, thirteen and sixteen measure the skill or competence toward taking responsible actions. Items three, fourteen, eighteen, and twenty-one are designed to measure the willingness or efficacy to take responsible actions in order to have an impact on the social or physical environment. Items four, five, six, eight, twelve, and nineteen measure how students perceive that they perform or do act in responsible ways.

In order to avoid the tendency to make socially desirable responses, the items were placed in a question format in which students first decide which students are most like themselves and then whether this is only sometimes true for themselves, or almost always true for themselves.

The effectiveness of this question format lies in the implication that half of the kids in the world (or in one's reference group) view themselves in one way,
whereas the other half view themselves in the opposite manner. That is, this type of question legitimizes either choice. Confidence in this format is bolstered by the fact that the children's verbal elaborations on the reasons for their choices indicate that they are giving accurate self-perceptions rather than socially desirable responses. (Harter, 1978)

Since the scale was "created specifically for (Conrad & Hedin's) study it had not undergone thorough analysis regarding its validity and reliability. Some tests were done before it was used, however, and others were performed as part of the overall research effort" (Conrad and Hedin, 1980, p. 4). The authors believed that construct validity was strengthened by its objective scoring system, by random reversal of items to eliminate response bias, and by standardizing administration procedures.

The reading level is grade seven/eight on the Dale-Chall Reading Level Test and grade seven on the Fry test (Conrad, 1979, p. 126). The scale adapted a number of items from the standardized Berkowitz SRS; those and other items were examined by researchers including Dr. Harter and Dr. Connell of the University of Denver who assessed responsibility in elementary school students. Five independent judges agreed (.92) on the category placement of the twenty-one items; concurrent validity tests were designed as part of the study. Reliability was determined to be .83 through the use of Cochran's Q (Conrad, 1979, p. 126).
Student attitudes toward school as assessed by feelings of personal inadequacy or adequacy were measured by the Janis-Field Feelings of Inadequacy Scale of the Questionnaire (Appendix A). The Janis Scale focuses on self-esteem in actual social interactions. For the Questionnaire, the authors chose ten items which correlated highest inter-item from the twenty item scale; each item chosen represents situations which are common to high school students and which reasonably may be expected in a community based service/learning program. Conrad and Hedin discussed tests of reliability and validity as noted by Robinson and Shaver (1973) who reported split-half reliabilities ranging from .72 to .88; these levels were also reported for the shortened ten item version of the scale (Conrad and Hedin, 1980, p. 9; Skolnick and Shaw, 1970, pp. 732-734).

Urban high school students' commitment to the goal of responsible citizenship was measured by counting the number of days absent and the number of disciplinary offenses for the quarter prior to community learning/service activities and for the quarter during such activities. Those numbers were listed on a Record Review form. Socially acceptable behavior and commitment to the community learning/service program by better attendance and better behavior were determined to be positive responses to the concept of responsible citizenship. The Record Review form was designed by the author of this study.
One hundred fifty students who were randomly assigned to five classes comprised the control group, and one hundred fifty students who were randomly assigned to five similar classes comprised the experimental group. Even though ten entire classes were used as the control and experimental groups, the study satisfied the need for external randomization because students were initially randomly assigned to those required classes (Dayton & Stunkard, 1971, p. 165).

In this study, it was not feasible to incorporate complete external randomization because classes were set within the schedule of the school. There is support for this type of randomization because of the number of experimental subjects used in this study. "Since the larger the n, the greater the chances of equalizing subject bias, it is generally considered to be good research practice to include a sufficient number of subjects to allow subject variables to be 'randomized out'" (Meyers and Grossen, 1974, p. 128).

The type of randomization used in this study allows for replication of the experiment on new populations of subjects. "The failure to plan replication of experiments is often advanced as an important criticism against educational research" (Dayton and Stunkard, 1971, p. 165). Dayton and Stunkard agreed with this criticism and urged researchers to use a form of external
randomization so that the experiment might be replicated.

Students who received community learning/service activities returned to their assigned classes for the cognitive linking of the experiences with their regular classroom activities. The cognitive linking was accomplished by teacher student discussions as part of scheduled class lessons. The assignment of all students in existing classes made the experiential education activity one which was more easily discussed as an entire class.

Procedure

Collecting the Data

In March, 1980, permission was obtained to utilize portions of the "Experiential Education Questionnaire" which was developed by the Center for Youth Development and Research at the University of Minnesota. Diane Hedin, who developed the instrument with Dan Conrad, subsequently sent the writer sufficient copies to administer to both control and experimental students.

During March and April, 1980, pretests comprising the three sub-scales were administered to thirty-three students who were scheduled for preliminary service/learning experiences within the community. Twenty-four of the students completed community experiences and were administered the posttests in May, 1980. The author of this study then interviewed ten of those students to determine problem areas associated with pre and posttest administration, community learning/service experiences, and the relating of those experiences to classroom instruction. Three
teachers of the students were also interviewed to determine problems associated with the linking of experiences to classroom learning. The responses and comments of both students and teachers were used to improve the clarity of pre and posttest administration, response options, and instructions. Three service/learning site sponsors were interviewed to determine problems involved with determining clarity of students' experiences at the site and with making the experiences meaningful for both students and site sponsors.

During July, 1980, a workshop was held for seventeen teachers who were willing to become involved with learning/service activities for their students during the school year of 1980-81. In the week long, twenty-five hour workshop, teachers discussed ways of linking students' experiences with classroom activities, of grading and giving credit for those experiences, and of selecting meaningful activities at various sites based upon students' preferences for site activities. Teachers then spent six hours of the workshop sessions and subsequent voluntary hours in going into the community and developing sites in the following areas: student tutoring activities in nine elementary and five junior high schools, tutoring activities in two centers for retarded children, health care activities in three hospitals and one health center, services for the elderly in three senior citizen centers, and various business and career choice activities in a variety of profit and nonprofit
corporations and service centers. The program review sheet (Appendix B) lists specific sites which were developed.

During the first two weeks in September, 1980, three hundred students were pre-tested with the three sub-scales of the "Experiential Education Questionnaire" and were asked to list their preferences as to site placement. The three hundred students were familiarized with the goals of the community learning/service program and their parents were notified that their children might become involved in such an experience.

Students were then assigned to sites based upon their preferences and the availability of sites related to their preferences. One hundred forty-seven students were matched to sites either directly reflecting or closely related to their preferences. These students became the experimental group.

The remaining students, one hundred fifty, were designated as the control group and were told that they would receive community service/learning experiences during the spring semester of the 1980-81 school year.

The experimental group students were given an assignment sheet (Appendix C) which described pertinent information related to their site placements and delineated their responsibility in the program. Since students' experiences involved missing scheduled class during the thirty hours of site placements, they were given instructions for completing written evaluations and attending seminars in order to relate their experiences to
classroom learning. They were also instructed that any missed classroom tests and other work must be made up. (See Appendix C) Teachers of those students were also informed of students' classroom responsibilities, and parents were provided with a release form. (Appendix D) Site sponsors were provided with a handbook which outlined responsibilities of students, school staff, and site sponsors. (Appendix E)

During September, October, and November, experimental students participated in community learning/service activities. After thirty hours of activities were completed, in late November and in early December, 1980, one hundred thirty six of the experimental students were posttested with the three subscales of the "Experimental Education Questionnaire".

One hundred twenty-six control group students were also posttested with the three subscales of the "Experiential Education Questionnaire". These students did not receive community learning/service activities, but continued to hold expectations that they would receive such activities in the spring semester. These activities are, in fact, planned for them during the spring semester.

In addition to the "Experiential Education Questionnaire", the "Record Review Form" (Appendix F) was utilized by the author to collect data concerning number of days absent from school and numbers of disciplinary referrals for both the control and experimental groups during the school quarter (spring, 1980)
prior to community learning/service activities and during the school quarter (fall, 1980) in which those activities were conducted.

Pretest mean scores for the experimental and control groups were computed on the three subscales and on spring absence and disciplinary offenses to determine whether these groups were suitable for comparison. Since the statistical procedure used was the analysis of variance, the assumption of homogeneity of variance was tested. The t-test used was applied to the sample variances: "If the hypothesis of homogeneity of variance is accepted, then the analysis of variance may be applied with assurance that the equal variance assumption is satisfied" (Dayton and Stunkard, 1971, p. 161).

Although homogeneity of variance was accepted in most of the tests, analysis of variance could still have been applied because sample sizes were nearly equal. Even though small differences appeared in sample sizes because of attrition on the part of both the control and experimental groups for a variety of reasons, analysis of variance was still appropriate. Empirical evidence concerning the robust nature of the analysis of variance with unequal variances but with samples of nearly equal size has been reported by Bonneau (1960) and has been accepted by other statisticians (Dayton and Stunkard, 1971, p. 161; Meyers and Grossen, 1974, p. 233).

During the course of the thirty hours of experiences, stu-
dents, together with teachers, reflected upon the activities in which the experimental group were involved. Regular weekly class discussions, individual student-teacher discussions, and the keeping of an activities journal by students were utilized. In addition, both students and teachers were asked to measure the worth of the experiences and to make suggestions for their improvement. An evaluation sheet was filled out by students, teachers, and site sponsors to help in the subsequent improvement of the program.

The author also interviewed ten students and five teachers to conduct an in-depth look at the nature of experiences and to determine more effective ways to tie those experiences into the regular work of the classroom.

Although this was not a part of the study, it occurred to the researcher that it might be interesting to see if male and female differences would emerge in the results. The author, therefore, also examined differences between males and females in both control and experimental groups on three subscales of the Experiential Education Questionnaire, on absence, and on referrals.

Coding the Data

The "Experiential Education Questionnaire" subscales (Appendix A) included forty-six items; each item represented one variable. The Record Review Form (Appendix F) included two variables (attendance and disciplinary referrals). Other varia-
bles coded were: case number, type (experimental and control), sex, and pre-post.

In specifying the variables, care was taken to see that they were clearly and logically coded. Variable one identified case number; one hundred thirty six cases were included in the experimental group and one hundred twenty six cases were included in the control group. Variable two designated type; control was coded as one and experimental as two. Variable three identified sex; male was coded as one and female as two. Variable four, pre-post, was coded as one for pre and two for post. The exact data, without coding, were used for variable five, absence.

Data on the "Experiential Education Questionnaire" were coded as indicated on the form (Appendix A). Variables six through twenty included the fifteen items which made up the Career Exploration sub-scale. All fifteen items were coded on a scale of one through five as follows: Never = one, Once = two, Several times = three, Once a month = four, More than once a month = five. If the item was not answered, a code of zero was used.

Variables twenty-one through forty-one included the twenty-one items which made up the Social and Personal Responsibility sub-scale. The items were coded on a scale of one through four, with four designated as the highest and one as the lowest score for each item. Because the sub-scale was formulated with random reversal of items to eliminate response bias, a number of the item responses were inverted in the coding process. Coding for all items, therefore, is indicated in Table 3.
Table 3
Coding for Social and Personal Responsibility Sub-Scale Items

<table>
<thead>
<tr>
<th>Left-to-Right Order Coding (1,2,3,4)</th>
<th>Variable Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question Number</td>
<td>Variable Number</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
</tr>
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<td>20</td>
<td>40</td>
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</table>

<table>
<thead>
<tr>
<th>Inverted Coding (4,3,2,1)</th>
<th>Variable Number</th>
</tr>
</thead>
<tbody>
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<td>Question Number</td>
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<tr>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>13</td>
<td>33</td>
</tr>
</tbody>
</table>
Variables forty-three through fifty-two included the ten items of the Janis-Field Feelings of Inadequacy sub-scale and were coded on a scale of one through five, with five as the highest and one as the lowest score. An unanswered item was coded as zero. Because of the random reversal of items, six of the item responses were inverted in the coding process. Coding for the ten items is indicated in Table 4.

Table 4
Coding for Janis-Field Feelings of Inadequacy Sub-scale Items

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Variable Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>4</td>
<td>46</td>
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<td>7</td>
<td>49</td>
</tr>
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<td>10</td>
<td>52</td>
</tr>
</tbody>
</table>
Variable forty-two was used to designate disciplinary referrals; the exact data, without coding, were used for this item.

**Research Design**

The design used in this study was the pretest-posttest control group design. In the diagram below, R represents random assignment, 0 represents observations, and X represents treatment.

- **Experimental**: R O X 0
- **Control**: R O 0

A point must be reiterated concerning the random assignment of subjects upon which this design is based. As was stated earlier in this study, the students in both the experimental and control groups were initially randomly assigned to classes within the school; entire class groups were involved as control and experimental subjects. It was felt, therefore, that the cri-
The criterion of random assignment was met as far as it was possible to be met within a viable school schedule.

The pretest-posttest control group design controls for eight threats to internal validity: history, maturation, testing, instrumentation, regression, selection, mortality, and interaction effects. These eight threats have been identified by Campbell and Stanley (1963). Additional strength was added to the design because both the experimental and control groups were from the same school population, and from the same age and grade groups. The students were also similar in pretest scores on the attitude sub-scales.

Data Analysis

Data in this study were analyzed in the phases described below.

Because the original numbers of variables were so large, and, separately, cumbersome to handle meaningfully, they were grouped into ten distinct clusters for more effective analysis.

Items one through seven (variables six through twelve) and items eight through fifteen (variables thirteen through twenty) on the Career Exploration sub-scale were grouped respectively into two new variables (clusters) designated as Career (career action items) and Tradcar (traditional career information items.)

On the Social and Personal Responsibility sub-scale, items two, seven, eleven, and fifteen (variables twenty-two, twenty-seven, thirty-one, and thirty-five) were grouped into a new
variable designated as Socwelf (social welfare items). Items one, ten, seventeen, and twenty (variables twenty-one, thirty, thirty-seven, and forty) were grouped into a new variable designated as Duty. Items nine, thirteen, and sixteen (variables twenty-nine, thirty-three, and thirty-six) were grouped into a new variable designated as Comp (competence items); items three, fourteen, eighteen, and twenty-one (variables twenty-three, thirty-four, thirty-eight, and forty-one) were grouped into a new variable designated as Effic (efficacy items). Finally, items four, five, six, eight, twelve, and nineteen (variables twenty-four, twenty-five, twenty-six, twenty-eight, thirty-two, and thirty-nine) were grouped into a new variable designated as Perform (performance items).

For the Janis-Field Feelings of Inadequacy sub-scale, items one through ten (variables forty-three through fifty-two) were grouped into a new variable designated as Inad (inadequacy items).

Table 5 indicates the coding described above.

Table 5

Clustering of Variables for Individual Response Items

<table>
<thead>
<tr>
<th>Career Subscale</th>
<th>Variable Numbers</th>
<th>Clustering Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Numbers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,2,3,4,5,6,7</td>
<td>6,7,8,9,10,11,12</td>
<td>Career</td>
</tr>
<tr>
<td>8,9,10,11,12,13,14,15</td>
<td>13,14,15,16,17,18,19,20</td>
<td>Tradcar</td>
</tr>
</tbody>
</table>
Absence and referral variables remained the same, but were renamed clustering variables.

To determine whether the control and experimental groups were suitable for comparison, the following $t$ test analysis was performed:

$$t_{n_1 + n_2 - 2} = \frac{X_1 - X_2}{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}$$

In the formula, $X_1$ is equal to the pretest control group sample mean and $X_2$ is equal to the pretest experimental group sample mean. $S_1^2$ and $S_2^2$ are equal to the pretest control and experimental group sample variances; $n_1$ and $n_2$ are the numbers of subjects in the control and experimental groups. With large sample sizes, the assumptions of normal population distri-
bution and homogeneity of variance become "relatively unimpor-
tant" and the \( t \) test can be used to determine significance for a
difference between means (Hays, 1973, pp. 404–407). The ninety-
five percent confidence limits for a difference with large
samples are used (Ibid., p. 407). "It has been found empiric-
ally that even if the assumptions underlying the \( t \) test are vio-
lated, the \( t \) test will still provide, in most instances, an
accurate estimate of the significance level for differences
between sample means" (Borg and Gall, 1971, p. 305). The rele-
vant null hypothesis tested was: \( H_0: \bar{X}_1 = \bar{X}_2 \). Significance
of \( t \) was set at .05.

Changes within the experimental and control groups were
calculated by comparing pre and posttest means and variances in
each group on all ten cluster variables by both a paired sample
\( t \) test and a one way analysis of variance. Comparisons were
made for all subjects in both groups and then for males and
females separately.

The paired sample \( t \) test was used to measure the same
individuals before and after treatment (self pairing). The
purpose of pairing is to reduce the effect of subject to subject
variability (extraneous influences on the variable being meas-
ured). This type of \( t \)-test is preferred because it takes poten-
tial heterogeneity of individual students into account.

To compute \( t \) for paired samples, the paired difference
variable \( D = X_1 - X_2 \) was formed, where \( X_1 \) = the measurement
prior to treatment and $X_2$ the measurement after treatment. D is normally distributed with mean $\mu$. The sample mean and variance ($\bar{d}$ and $S_d^2$) were computed, and then: $t = \frac{\bar{d} - \mu}{S_d}$

$df = n-1$ where $n$ is the number of pairs, and

$$s_d = \sqrt{\frac{S_1^2 + S_2^2 - \frac{2}{n} \sum_{i=1}^{n} x_1i x_2i}{n-1}}$$

$\frac{X_1 i X_2 i}{n-1}$ is the covariance between $X_1$ and $X_2$.

The null hypothesis used to specify a two tailed test was:

$$H_0: \mu = 0$$

Significance level was .05

When a $t$ test is performed on only two samples, a one way analysis of variance is unnecessary because the F produced equals the $t$ squared. However, in order to look at the data from a slightly different viewpoint, a one way analysis of variances which examined the data without pairing was used. This type of one way analysis of variance did not take into account heterogeneity over individuals and, thus, provided additional information on the data under examination. The F scores produced were compared with the $t$-test scores to determine whether a difference in outcome existed because of subject to subject variability.

The formula for the one way analysis of variance (fixed effects model) follows:
Total Sum of Squares \( (SS_y) = SS \text{ between} + SS \text{ within} \) (or \( SS_y = SS_A + SS_{\text{error}} \))

where \( SS_y = \sum_{j} \sum_{i} (Y_{ji} - \bar{Y})^2 \)
in which \( \bar{Y} \) is the mean of \( Y \) over the whole sample (grand mean) and the summations are over all individual cases \( i \) in each category \( j \) of the factor \( A \)

\[
SS \text{ between} = \sum_{j} N_j (\bar{Y}_j - \bar{Y})^2
\]
in which \( \bar{Y}_j \) is the mean of \( Y \) in the category \( j \), and \( N_j \) is the number of cases in category \( j \)

\[
SS \text{ within} = \sum_{j} \sum_{i} (Y_{ji} - \bar{Y}_j)^2
\]

"SS between is the portion of the sum of squares in \( Y \) due to factor \( A \), that is, due to the variation in the \( \bar{Y}_j \) means of the categories of the factor \( A \). SS within is variation which is not accounted for by \( A \), and is thus often written as \( SS_{\text{error}} \)."

The relative magnitude of \( SS_A \) (SS between) will become greater as the differences among the means of \( Y \) in various categories of \( A \) (\( \bar{Y}_j \)) increase and as the variations in \( Y \) within the categories of \( A \) decrease" (Ibid., p. 400).

The null hypothesis was: \( H_0: \mu_1 = \mu_2 \) and the following F test was used to test this hypothesis.

\[
F = \frac{SS_A}{(k-1)} \quad MS_A
\]
\[
\frac{SS_{\text{error}}}{(N-k)} = MS_{\text{error}}
\]

Degrees of freedom are \( k - 1 \) and \( N - k \) with \( N \) indicating the number of subjects and \( k \) indicating the number of groups. The significance level chosen for \( F \) was .05.

Additional analysis of data was conducted by using a
multiple classification analysis of variance (three way analysis)
and discriminant analysis.

The Multiple Classification Analysis was used to examine
the pattern of factor A's (the variation in the Yj) relationship
to the criterion variable being examined. Attribute variables
which were not experimentally manipulated and which, therefore,
were correlated were examined for their pattern of relationship
to the criterion variable. In the first column of the MCA
table, the numbers were the means of each category, expressed
as deviation from the grand mean; they were not adjusted for
other factors. Numbers in the second column were the adjusted
mean values for each category when the other factor was adjusted
for. The pattern of changes in the effects of a given variable
as more variables were introduced as controls was also examined
and is discussed in Chapter 4.

Other descriptive statistics which were examined are the
pooled within groups correlation matrix and the Wilks' Lambda
(U Statistic). The pooled within groups correlation matrix
examines intercorrelations among variables using the simple
correlation coefficient of \( r^2 \) (coefficient of determination),
the percent of variance in a dependent variable explained by
the independent variable. The Pearson product-moment correlation
coefficient (r) was computed and squared to determine this
measure. Wilks' Lambda is an inverse determinant of the discrimi-
natory power in the original variables which indicates power
that has not yet been removed by discriminant functions. the larger the Lambda, the less information which remains. "Lambda can be transformed into a chi-square statistic for an easy test of statistical significance" (Nie and others, 1975, p. 442).

The formula for the \( r \) appears below.

\[
 r = \frac{\text{Cov} \left( X_1, X_2 \right)}{\sqrt{S_{x_1}^2 S_{x_2}^2}}
\]

In the formula \( \text{Cov} \left( X_1, X_2 \right) \) is the covariance of \( X_1 \) multiplied by \( X_2 \), and \( S_{x_1}^2, S_{x_2}^2 \) are the variances of each group.
CHAPTER IV

RESULTS

This study was conducted to determine the magnitude of selected changes in urban high school students' attitudes toward school, toward helping others, and toward future life goals; in students' school attendance and in their behavior in the school setting after a thirty hour community learning/service experience which was offered as a part of their regularly scheduled classes. This chapter presents and analyzes data relevant to the research hypotheses and to information descriptive of the population under study.

Research Hypotheses

Using a population of high school students enrolled in an urban comprehensive high school of over two thousand students, the following research hypotheses were tested:

\( H_0_1 \)

There is a difference in attitudes toward school, toward helping others, and toward future life goals, as measured by three attitude scales, between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.

\( H_0_2 \)

There is a difference in the level of active community involvement and students' commitment to the educational goal of responsible citizenship as measured by better school attendance between urban high school...
students who are involved in a community based learning/service experience and those who are not involved in such an experience.

Ho3: There is a difference in the level of active community involvement and students' commitment to the educational goal of responsible citizenship as measured by fewer school disciplinary offenses between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.

A t-test was performed on experimental and control pretests to determine whether the groups were suitable for comparison. Forty-eight independent variables were grouped into ten cluster variables (Career, Tradcar, Socwelf, Duty, Compet, Effic, Perform, Inad, Absence, and Referral) prior to the performance of the t-test.

Table 6 presents the results of the t-test between experimental and control group pretest variances and means. The formula which was detailed in Chapter 3 is presented below:

\[
t_{n_1 + n_2 - 2} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}
\]
Table 6
Results of t-tests on Control and Experimental Groups: Pretests

<table>
<thead>
<tr>
<th>Cluster Variables</th>
<th>Means</th>
<th>Variances</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>17.8810</td>
<td>25.4997</td>
<td>.9323</td>
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<td>Experimental</td>
<td>17.3088</td>
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<td>Tradcar</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>23.2698</td>
<td>41.5746</td>
<td>3.5627**</td>
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<tr>
<td>Experimental</td>
<td>20.5956</td>
<td>31.7543</td>
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</tr>
<tr>
<td>Socwelf</td>
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<td>Control</td>
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<td>Duty</td>
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<tr>
<td>Control</td>
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<td>25.7519</td>
<td>1.8107</td>
</tr>
<tr>
<td>Experimental</td>
<td>33.2427</td>
<td>31.3111</td>
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<td>Absence</td>
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<tr>
<td>Control</td>
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<td>21.9474</td>
<td>2.5873**</td>
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<tr>
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<td>4.8824</td>
<td>11.2896</td>
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<td>Referral</td>
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<tr>
<td>Experimental</td>
<td>.0514</td>
<td>.0488</td>
<td></td>
</tr>
</tbody>
</table>

**p < .05 (df = 260)
Results of the $t$-test indicated that the null hypothesis was upheld in eight of the ten variable clusters. The exceptions were Tradcar and Absence in which the $t$'s were significant at < .05. Because of the results of the $t$-test, it was decided that eight of the ten variables were suitable for comparison. To further test pretest variances of Tradcar and Absence which were unequal on the $t$-test, an F ratio test of homogeneity of variances was performed on both of the variables. Although this test does not measure as acutely because it utilizes only variances and not both means and variances as does the $t$-test, it has been suggested as a valid test of homogeneity of variance (Dayton and Stunkard, 1971, pp. 147-150). The formula appears below:

$$F = \frac{S_1^2}{S_2^2}$$

with $n_1 - 1$ and $n_2 - 1$ degrees of freedom.

The results of further testing of the Tradcar and Absence variables are indicated in Table 7.

Table 7

<table>
<thead>
<tr>
<th>Cluster Variable</th>
<th>Means</th>
<th>Variances</th>
<th>t-test</th>
<th>F-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tradcar Control</td>
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<td>41.5746</td>
<td>3.5627**</td>
<td>1.3093</td>
</tr>
<tr>
<td>Experimental</td>
<td>20.5956</td>
<td>31.7543</td>
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<td></td>
</tr>
<tr>
<td>Absence Control</td>
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<td>21.9474</td>
<td>2.5873**</td>
<td>1.9440*</td>
</tr>
<tr>
<td>Experimental</td>
<td>4.8824</td>
<td>11.2896</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$ (df = 126, 136)
** $p < .05$ (df = 260)
Results of the F-ratio test of homogeneity of variance test on the Tradcar variable indicated that the assumption of homogeneity of variance was upheld. It was, therefore, decided that although the variable was significant in the $t$-test, it could, because of the results of the F-ratio test, still be considered to be homogeneous in pretest results. Results of the F ratio test on the Absence variable indicated that the assumption of homogeneity of variance was not upheld.

Because of the ambiguity produced by the results of the $t$-test and the $F$-test on the Tradcar variable, a further test was performed. A discriminant analysis which indicated whether or not the pretest variances and means were suitable for comparison according to the Wilks' Lambda (U-statistic) is presented in Table 8.

Table 8
Results of the Wilks' Lambda (U-Statistic) and Univariate $F$-Ratio with 1 and 260 Degrees of Freedom

<table>
<thead>
<tr>
<th>Variable</th>
<th>Wilks' Lambda</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career</td>
<td>0.99666</td>
<td>.8713</td>
</tr>
<tr>
<td>Tradcar</td>
<td>0.95300</td>
<td>12.82**</td>
</tr>
<tr>
<td>Socwelf</td>
<td>0.99993</td>
<td>.1907</td>
</tr>
<tr>
<td>Duty</td>
<td>0.99716</td>
<td>.7402</td>
</tr>
<tr>
<td>Compet</td>
<td>0.99507</td>
<td>1.288</td>
</tr>
</tbody>
</table>
Table 8 (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Wilks' Lambda</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effic</td>
<td>0.99828</td>
<td>.4476</td>
</tr>
<tr>
<td>Perform</td>
<td>0.99987</td>
<td>.3281</td>
</tr>
<tr>
<td>Inad</td>
<td>0.98764</td>
<td>3.255</td>
</tr>
<tr>
<td>Absence</td>
<td>0.98325</td>
<td>4.428**</td>
</tr>
<tr>
<td>Referral</td>
<td>0.99723</td>
<td>.7226</td>
</tr>
</tbody>
</table>

** p < .05

According to the results of the above table, the variance of both Tradcar and Absence discriminate on the pretest. Although two of the three analyses performed (t-test and Wilks' Lambda) indicated that Tradcar was not truly suitable for inclusion in the results of this analysis, the robust nature of t-tests (Borg and Gall, 1971, p. 305) inclined the writer to include it anyway. Additionally, large mean gains demonstrated on the experimental posttests of this variable needed to be examined. Although the assumption of homogeneity of variance was not upheld on the Absence variable by any test, it was also decided to include this variable in the analysis of results because of the robust nature of both t-test (Ibid.) and the analysis of variance tests (Bonneau, 1960; Dayton and Stunkard, 1971, p. 161; Meyers and Grossen, 1974, p. 233). In addition, large mean experimental decreases in absence needed to be examined.
Changes within experimental and control groups were calculated by comparing pre and posttest results in each group by both a paired sample $t$-test and a one way analysis of variance. The results of each analysis of the variables are presented in this chapter.

**Career Exploration Subscale**

One area analyzed in this study was the effect of students' involvement in career exploration and planning. A general scale (Career Exploration Subscale) with two variables (Career and Tradcar) was used to test this area. The results are presented in the following section.

**Table 9**

*Pre-Post Means and Mean Gains for Experimental and Control Groups on Career and Tradcar Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>(N)</th>
<th>Pretest Mean/sd</th>
<th>Posttest Mean/sd</th>
<th>Mean Gain</th>
<th>t-value</th>
<th>p=(2 tail)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Control</td>
<td>126</td>
<td>17.88 5.05</td>
<td>19.74 5.86</td>
<td>1.86 4.37</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>136</td>
<td>17.31 4.87</td>
<td>23.80 5.12</td>
<td>6.49 14.68</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Tradcar Control</td>
<td>126</td>
<td>23.27 6.45</td>
<td>24.59 6.29</td>
<td>1.29 2.29</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>136</td>
<td>20.60 5.64</td>
<td>28.66 6.54</td>
<td>8.07 13.98</td>
<td>.001</td>
<td></td>
</tr>
</tbody>
</table>
Table 9 reveals that each of the groups registered a statistically significant gain on both variables in the Career Exploration subscale.

Table 10 presents results of a one way analysis of variance on the same two variables.

Table 10

Career Exploration Subscale Results of One Way Analysis of Variance on Experimental and Control Groups on Career and Tradcar Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Con.</td>
<td>B/G</td>
<td>217.286</td>
<td>1</td>
<td>217.286</td>
<td>7.666</td>
</tr>
<tr>
<td>W/G</td>
<td>7085.571</td>
<td>250</td>
<td>28.342</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exp.</td>
<td>B/G</td>
<td>2866.504</td>
<td>1</td>
<td>2866.504</td>
<td>114.853</td>
</tr>
<tr>
<td>W/G</td>
<td>6738.669</td>
<td>270</td>
<td>24.958</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tradcar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Con.</td>
<td>B/G</td>
<td>105.433</td>
<td>1</td>
<td>105.433</td>
<td>2.598</td>
</tr>
<tr>
<td>W/G</td>
<td>10143.817</td>
<td>250</td>
<td>40.575</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exp.</td>
<td>B/G</td>
<td>4424.298</td>
<td>1</td>
<td>4424.298</td>
<td>118.753</td>
</tr>
<tr>
<td>W/G</td>
<td>10059.199</td>
<td>270</td>
<td>37.256</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although gains on both the Career and Tradcar variables were significant in both control and experimental groups on the t-test and in three of the four F-tests (Tradcar Control being the exception), the experimental group made greater gains on both variables. Additionally, although the pre-test mean was higher in the control group, the posttest mean was higher in the
experimental group on both variables. On the Career variable, the posttest experimental group mean gain score was three times higher than that of the control group. On the Tradcar variable, it was nearly seven times higher.

Two dimensions are included in the Career Exploration subscale. The first measures Career Action (Career Variable), the degree to which students have actively explored careers. The second questions the kind and extent of information (Tradcar Variable) they have gained about a career field. The writer believed that the experimental group would demonstrate higher gains on the Career Action dimension than they would on the Career Information dimension. This belief was not borne out by test results. In both the t-test and the one way analysis of variance, the experimental group demonstrated greater gains in the traditional career information dimension. The control group, however, demonstrated greater gains on the career action dimension, although these gains were, for the most part, not statistically significant. To further investigate the experimental education program's effect upon control and experimental students, Career Exploration data were analyzed by examining program effects upon male and female control experimental group subjects. Results of the t-test and the one way analysis of variance on males and females are presented in Tables 11 and 12.
Table 11

Career Exploration Subscale
Pre-Post Means and Mean Gains for Experimental and Control Groups Differentiated by Males and Females on Career and Tradcar Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>(N)</th>
<th>Pretest Mean/sd</th>
<th>Posttest Mean/sd</th>
<th>Mean Gain</th>
<th>t-value</th>
<th>p = (2 tail)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>49</td>
<td>17.65/5.49</td>
<td>19.08/5.45</td>
<td>1.43</td>
<td>2.02</td>
<td>N.S.</td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Males</td>
<td>46</td>
<td>16.78/4.53</td>
<td>24.52/4.31</td>
<td>7.74</td>
<td>11.69</td>
<td>.001</td>
</tr>
<tr>
<td>Control</td>
<td>77</td>
<td>18.03/4.78</td>
<td>20.16/5.61</td>
<td>2.13</td>
<td>4.01</td>
<td>.001</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Females</td>
<td>90</td>
<td>17.58/5.04</td>
<td>23.43/5.47</td>
<td>5.86</td>
<td>10.51</td>
<td>.001</td>
</tr>
<tr>
<td>Tradcar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>49</td>
<td>23.12/6.35</td>
<td>24.00/6.52</td>
<td>.88</td>
<td>1.10</td>
<td>N.S.</td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Males</td>
<td>46</td>
<td>19.33/5.25</td>
<td>30.22/6.85</td>
<td>10.89</td>
<td>10.16</td>
<td>.001</td>
</tr>
<tr>
<td>Control</td>
<td>77</td>
<td>23.36/6.55</td>
<td>24.92/6.16</td>
<td>1.56</td>
<td>2.02</td>
<td>.05</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Females</td>
<td>90</td>
<td>21.24/5.74</td>
<td>27.87/6.26</td>
<td>6.62</td>
<td>10.51</td>
<td>.001</td>
</tr>
</tbody>
</table>

Table reveals that females in both control and experimental groups registered a statistically significant gain on both variables in the Career Exploration subscale. Experimental males registered a statistically significant gain on both varia-
bles, but control males did not.

Table 12 presents results of the one way analysis of variance on the same two variables as differentiated by males and females.

Table 12

Career Exploration Subscale
Results of One Way Analysis of Variance on Experimental and Control Groups Differentiated by Males and Females on Career and Tradcar Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F</th>
<th>p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>B/G</td>
<td>50.0000</td>
<td>1</td>
<td>50.000</td>
<td>1.642</td>
</tr>
<tr>
<td>Males</td>
<td>W/G</td>
<td>2922.776</td>
<td>96</td>
<td>30.446</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>B/G</td>
<td>1377.565</td>
<td>1</td>
<td>1377.565</td>
<td>70.552</td>
</tr>
<tr>
<td>Males</td>
<td>W/G</td>
<td>1757.304</td>
<td>90</td>
<td>19.526</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>B/G</td>
<td>174.649</td>
<td>1</td>
<td>174.649</td>
<td>6.437</td>
</tr>
<tr>
<td>Females</td>
<td>W/G</td>
<td>4124.078</td>
<td>152</td>
<td>27.132</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>B/G</td>
<td>1542.939</td>
<td>1</td>
<td>1542.939</td>
<td>55.753</td>
</tr>
<tr>
<td>Females</td>
<td>W/G</td>
<td>4926.056</td>
<td>178</td>
<td>27.674</td>
<td></td>
</tr>
<tr>
<td>Tradcar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>B/G</td>
<td>18.867</td>
<td>1</td>
<td>18.867</td>
<td>0.456</td>
</tr>
<tr>
<td>Males</td>
<td>W/G</td>
<td>3975.265</td>
<td>96</td>
<td>41.409</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>B/G</td>
<td>2128.272</td>
<td>1</td>
<td>2728.272</td>
<td>73.255</td>
</tr>
<tr>
<td>Males</td>
<td>W/G</td>
<td>3351.935</td>
<td>90</td>
<td>37.244</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>B/G</td>
<td>93.506</td>
<td>1</td>
<td>93.506</td>
<td>2.314</td>
</tr>
<tr>
<td>Females</td>
<td>W/G</td>
<td>6141.351</td>
<td>152</td>
<td>40.404</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>B/G</td>
<td>1973.422</td>
<td>1</td>
<td>1973.422</td>
<td>54.695</td>
</tr>
<tr>
<td>Females</td>
<td>W/G</td>
<td>6427.022</td>
<td>178</td>
<td>36.107</td>
<td></td>
</tr>
</tbody>
</table>
On the one way analysis of variance test (Table 12) gains on both the Career and Tradcar variables were highly significant \( (F < .001) \) in experimental males and females. Gains on the Career variable were significant in control females \( (.05) \) but not in control males; gains on the Tradcar Variable were not significant for either control females or males.

A comparison of results of the t-test and the one way analysis of variance on males and females, indicated that gains shown in Tables 9 and 10 are attributable in control groups to females in the Career Tradcar variables (in both the t-test and the one way analysis of variance. Gains made by female controls on the Tradcar variable are, however, significant. Significant gains were not demonstrated on the one way analysis of variance; on the t-test, a t of 2.02 with seventy-seven subjects is barely significant.

It should be pointed out that the results obtained by the t-test, in each instance, are of greater magnitude than those obtained by the one way analysis of variance. Because the paired sample t-test was used, it is evident that the reduction of the effect of subject to subject variability provided for in the t-test had a differential effect upon results. The comparatively larger t scores obtained are more precise and more accurate measurements than the F scores. Subject variability was indeed an influence in the one way analysis of variance, but not in the t-test.
Data from the Career Exploration subscale were further studied by using a three way analysis of variance to determine whether or not sex of participant was significant in the results obtained. Results are presented in Tables 13 and 14.

Table 13
Results of Three Way Analysis of Variance on Career Variable

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>2789.490</td>
<td>3</td>
<td>929.830</td>
<td>34.946</td>
<td>.001</td>
</tr>
<tr>
<td>Prepost</td>
<td>2381.086</td>
<td>1</td>
<td>2381.086</td>
<td>89.490</td>
<td>.001</td>
</tr>
<tr>
<td>Type (C and E)</td>
<td>390.952</td>
<td>1</td>
<td>390.952</td>
<td>14.693</td>
<td>.001</td>
</tr>
<tr>
<td>Sex</td>
<td>9.802</td>
<td>1</td>
<td>9.802</td>
<td>0.368</td>
<td>N/S</td>
</tr>
<tr>
<td>2 Way Interactions</td>
<td>736.498</td>
<td>3</td>
<td>245.499</td>
<td>9.227</td>
<td>.001</td>
</tr>
<tr>
<td>Prepost-Type E-C</td>
<td>710.002</td>
<td>1</td>
<td>710.002</td>
<td>26.684</td>
<td>.001</td>
</tr>
<tr>
<td>Prepost-Sex .M F</td>
<td>10.934</td>
<td>1</td>
<td>10.934</td>
<td>0.411</td>
<td>N/S</td>
</tr>
<tr>
<td>Type-Sex E-C</td>
<td>22.861</td>
<td>1</td>
<td>22.861</td>
<td>0.859</td>
<td>N/S</td>
</tr>
<tr>
<td>3 Way Interactions</td>
<td>50.431</td>
<td>1</td>
<td>50.431</td>
<td>1.895</td>
<td>N/S</td>
</tr>
<tr>
<td>Prepost-Type-Sex</td>
<td>50.431</td>
<td>1</td>
<td>50.431</td>
<td>1.895</td>
<td>N/S</td>
</tr>
<tr>
<td>Explained</td>
<td>3576.422</td>
<td>7</td>
<td>510.917</td>
<td>19.902</td>
<td>.001</td>
</tr>
<tr>
<td>Residual</td>
<td>13729.391</td>
<td>516</td>
<td>26.607</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13 indicates that on the Career variables, overall, significant effects were obtained between pre-post tests (p .001), between control and experimental groups (p .001), but not between males and females. Two way interactions compared type (E and C) with pre post results and significance was .001. Sex was then compared to prepost results and to type. Results were not significant. Three way interactions compared prepost, type, and sex. Results were not significant. Thus, although control female subjects demonstrated greater mean gains than control males on the Career variables and although experimental males
demonstrated greater mean gains than experimental females on the Career variable, the influence of sex was not significant in either group.

Table 14

Results of Three Way Analysis of Variance on Tradcar Variable

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>3099.974</td>
<td>3</td>
<td>1033.325</td>
<td>28.801</td>
<td>.001</td>
</tr>
<tr>
<td>Prepost</td>
<td>3029.771</td>
<td>1</td>
<td>3029.771</td>
<td>78.582</td>
<td>.001</td>
</tr>
<tr>
<td>Type</td>
<td>64.453</td>
<td>1</td>
<td>64.453</td>
<td>1.672</td>
<td>N/S</td>
</tr>
<tr>
<td>Sex</td>
<td>3.889</td>
<td>1</td>
<td>3.889</td>
<td>0.101</td>
<td>N/S</td>
</tr>
<tr>
<td>2 Way Interactions</td>
<td>1618.576</td>
<td>3</td>
<td>539.525</td>
<td>13.993</td>
<td>.001</td>
</tr>
<tr>
<td>Prepost-Type</td>
<td>1536.676</td>
<td>1</td>
<td>1536.676</td>
<td>39.856</td>
<td>.001</td>
</tr>
<tr>
<td>Prepost-Sex</td>
<td>99.402</td>
<td>1</td>
<td>99.402</td>
<td>2.578</td>
<td>N/S</td>
</tr>
<tr>
<td>Type-Sex</td>
<td>19.217</td>
<td>1</td>
<td>19.217</td>
<td>0.498</td>
<td>N/S</td>
</tr>
<tr>
<td>3 Way Interactions</td>
<td>184.938</td>
<td>1</td>
<td>184.938</td>
<td>4.797</td>
<td>.05</td>
</tr>
<tr>
<td>Prepost-Type-Sex</td>
<td>184.936</td>
<td>1</td>
<td>184.936</td>
<td>4.797</td>
<td>.05</td>
</tr>
<tr>
<td>Explained</td>
<td>4903.488</td>
<td>7</td>
<td>700.498</td>
<td>18.169</td>
<td>.001</td>
</tr>
<tr>
<td>Residual</td>
<td>24798.191</td>
<td>523</td>
<td>38.556</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 14 indicates that, on the Tradcar variable, overall, significant effects were obtained between pre-post tests (p. .001), but not between type nor between males and females. Two way interactions compared type (E and C) with prepost results; significance was .001. Sex was then compared to prepost results and to type. Results were not significant. Three way interactions compared prepost, type, and sex. Results were significant (p .05). Although this minimal significance did not appear in the two way comparison of sex with prepost and sex with type, the three way comparison brought out the signifi-
cance which, upon examination of the t-test (Table 11), appeared to be caused by the mean gains of experimental males on the Tradcar variable. (Mean gain = 10.89). The results of the one way analysis of variance (Table 12) supported this, showing an F of 70.552 for experimental males. The male experimental mean gain and the F score were clearly much greater than the next highest gains, those of experimental females (mean gain = 6.62 and F = 55.753).

Data from the Career Exploration subscale tend to support the hypothesis that the experiential education experience did have a significant effect upon students' explorations of careers. The data also imply that career information may be gained through both classroom instruction and "hands-on" experiences. Data indicate that experiences outside of the classroom provide greater gains for students both in direct participation in career experiences and in traditional learning about such experiences. Male students may also benefit more substantially than females in such experiences. Experimental males demonstrated greater gains in both aspects measured by the Career Information subscale than did experimental females. Additionally, although experimental males received lower pretest mean scores than did experimental females on both variables of the subscale, their posttest mean scores in both cases were higher than experimental females (See Table 11).
Social and Personal Responsibility Subscale

The Social and Personal Responsibility Subscale (SPRS) was used to measure the impact of the experiential learning program on the social development of subjects. Variables measured in this subscale were: Social Welfare (Socwelf), Duty, Competence (Compet), Efficacy (Effic), and Performance (Perform). Results of the measurement of these variables are reported in the following section.

Table 15

Social and Personal Responsibility Subscale (SPRS) Pre-Post Means and Mean Gains for Experimental and Control Groups on Five Variables in the Subscale

<table>
<thead>
<tr>
<th>Variable</th>
<th>(N)</th>
<th>Pretest Mean/sd</th>
<th>Posttest Mean/sd</th>
<th>Mean Gain</th>
<th>t-value</th>
<th>p=(2-tail)</th>
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<td>Control</td>
<td>126</td>
<td>12.10 1.94</td>
<td>12.41 2.04</td>
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<td>1.58</td>
<td>N/S</td>
</tr>
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</tr>
<tr>
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<td>136</td>
<td>12.14 2.31</td>
<td>12.84 1.94</td>
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<td>2.70</td>
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<tr>
<td>Control</td>
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<td>-.90</td>
<td>N/S</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
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<td>3.70</td>
</tr>
<tr>
<td>Compet</td>
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<td>9.35 1.74</td>
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<td>6.45</td>
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<td>11.63 1.99</td>
<td>12.78 1.95</td>
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<td>5.14</td>
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</tbody>
</table>
Table 15 reveals that the experimental group demonstrated a statistically significant gain on all variables on the Social and Personal Responsibility Subscale. No significant gains were demonstrated by the control group on any variable.

Table 16 presents results of a one way analysis of variance on the same five variables.

Table 16

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p =</th>
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</tr>
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<tr>
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<td>W/G 1224.787 270</td>
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<td>Duty</td>
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<tr>
<td>Control</td>
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<td>.499</td>
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<td>W/G 961.794 250</td>
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<td>Experiment</td>
<td>B/G 42.882 1</td>
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<td></td>
<td>W/G 1067.176 270</td>
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</table>
Table 16 reinforces the findings of Table 15. Experimental subjects demonstrated significant gains on all variables of the Social and Personal Responsibility Subscale. Control subjects did not demonstrate significant gains on any variables.

The variables on which experimental subjects demonstrated the greatest gains were performance, efficacy, and competence. These variables relate to one's performance and one's beliefs about one's ability to bring about change in other people and in society in general. Smaller but still significant changes were demonstrated on Social Welfare (Socwelf) and Duty variables. These dimensions of attitude increased (significantly) but not as
greatly as the performance, efficacy, and competence dimensions. Control group students demonstrated small and statistically insignificant gains on four of the five variables. On the remaining variable (Duty), their posttest mean score was slightly lower than their pretest mean score (13.52 pre mean—13.34 post mean). This slight regression may have had some effect upon what appeared to be an extremely significant gain on the part of the experimental group.

To determine whether the results of the Social and Personal Responsibility Subscale differentiated between males and females, data were analyzed by examining program effects upon male and female control and experimental group subjects. Results of the t test and the one way analysis of variance on males and females are presented in Tables 17 and 18.

Table 17
Social and Personal Responsibility Subscale—Results of One Way Analysis of Variance on Experiential and Control Groups on Five Variables in the Subscale

<table>
<thead>
<tr>
<th>Variable</th>
<th>(N)</th>
<th>Pretest Mean/sd</th>
<th>Posttest Mean/sd</th>
<th>Mean Gain</th>
<th>t-value</th>
<th>p=(2 tail)</th>
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<td>Males</td>
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Table 17 (continued)

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<th>Posttest Mean/sd</th>
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<th>t-value</th>
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<td>Control</td>
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</table>


Table 17 reveals that male experimental subjects demonstrated statistically significant gains on all five variables while male control subjects did not demonstrate significant gains on any variable. An interesting observation is that male control subjects demonstrated no gain on the Competence variable (Compet) and regressed on the posttest on the other four variables. On two variables (Socwelf and Duty), male controls received higher pretest mean scores than did male experimentalists, but regressed on the posttests. The initial higher scores and subsequent regressions may have made the male experimental gains appear to be more significant than they actually were.

Female experimental subjects demonstrated statistically significant gains on four of the variables. On the Social Welfare (Socwelf) variable, however, their gain was not significant. Female control subjects demonstrated gains on every variable with a significant gain ($<.01$) on the Social Welfare variable. Initial mean scores were higher for experimental females than for control females, yet their mean posttest score was
slightly lower on this variable.

The highly significant findings on four variables for experimental subjects appear to be partly the result of diminished scores on the variables on the part of male control subjects. The male control group's regression on the Socwelfare variable was the factor which rendered the total control group's posttest scores on that variable to be non significant.

Table 18 presents results of a one way analysis of variance on the same five variables.

Table 18

Results of One Way Analysis of Variance on Male and Female Control and Experimental Groups on Five Variables in the Subscale

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p =</th>
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</tr>
<tr>
<td>Control</td>
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<td><strong>Experiment.</strong></td>
<td>B/G 18.272</td>
<td>1</td>
<td>18.272</td>
<td>7.674</td>
<td>.01</td>
</tr>
<tr>
<td>Male</td>
<td>W/G 214.283</td>
<td>90</td>
<td>2.381</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>B/W 1.097</td>
<td>1</td>
<td>1.097</td>
<td>.402</td>
<td>N/S</td>
</tr>
<tr>
<td>Female</td>
<td>W/G 415.413</td>
<td>152</td>
<td>2.733</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Experiment.</strong></td>
<td>B/G 70.939</td>
<td>1</td>
<td>70.939</td>
<td>24.759</td>
<td>.001</td>
</tr>
<tr>
<td>Female</td>
<td>W/G 510.11</td>
<td>178</td>
<td>2.865</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Effic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>B/G 1.724</td>
<td>1</td>
<td>1.724</td>
<td>.421</td>
<td>N/S</td>
</tr>
<tr>
<td>Male</td>
<td>W/G 393.306</td>
<td>96</td>
<td>4.097</td>
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<tr>
<td><strong>Experiment.</strong></td>
<td>B/G 28.272</td>
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<td>28.272</td>
<td>6.805</td>
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<tr>
<td>Male</td>
<td>W/G 373.848</td>
<td>90</td>
<td>4.154</td>
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<tr>
<td><strong>Control</strong></td>
<td>B/G 2.864</td>
<td>1</td>
<td>2.864</td>
<td>.725</td>
<td>N/S</td>
</tr>
<tr>
<td>Female</td>
<td>W/G 600.260</td>
<td>252</td>
<td>3.949</td>
<td></td>
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</tr>
<tr>
<td><strong>Experiment.</strong></td>
<td>B/G 62.422</td>
<td>1</td>
<td>62.422</td>
<td>16.588</td>
<td>.001</td>
</tr>
<tr>
<td>Female</td>
<td>W/G 669.822</td>
<td>178</td>
<td>3.763</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perform</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>B/G .367</td>
<td>1</td>
<td>.367</td>
<td>.059</td>
<td>N/S</td>
</tr>
<tr>
<td>Male</td>
<td>W/G 593.184</td>
<td>96</td>
<td>6.179</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Experiment.</strong></td>
<td>B/G 73.087</td>
<td>1</td>
<td>73.087</td>
<td>10.107</td>
<td>.01</td>
</tr>
<tr>
<td>Male</td>
<td>W/G 650.826</td>
<td>90</td>
<td>7.231</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>B/G 4.734</td>
<td>1</td>
<td>4.734</td>
<td>.615</td>
<td>N/S</td>
</tr>
<tr>
<td>Female</td>
<td>W/G 1169.532</td>
<td>152</td>
<td>7.694</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Experiment.</strong></td>
<td>B/G 131.756</td>
<td>1</td>
<td>131.756</td>
<td>18.425</td>
<td>.001</td>
</tr>
<tr>
<td>Female</td>
<td>W/G 1272.889</td>
<td>178</td>
<td>7.151</td>
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</tr>
</tbody>
</table>
Results of the one way analysis of variance on male and female experimental and control subjects reinforce the findings of the t-test. In addition, this analysis demonstrates that the regression of the male control group on four of the post test variables was not significant.

By comparing the results of the t-test and the one way analysis of variance, it becomes clear that significant results found on the Social Welfare variable on the part of experimental subjects was due to the experimental males' mean gains. Differences in gain scores of male and female experimental subjects did not appear to be different enough to affect the outcome.

A note must be made on the differences in magnitude of t-test and one way analysis of variance results obtained by all experimental subjects on the Competence variable (Tables 15 and 16). Further examination of separate male and female experimental results on both the t-test and the one way analysis of variance indicated that slightly higher magnitude of the t on this variable demonstrated that subject variability was an influence on both sexes on the one way analysis of variance, but not on the t test (Tables 17 and 18). The Performance variable also demonstrated greater magnitude of the t as compared with the F (Tables 15 and 16). Further examination indicated that subject variability was an influence in experimental females on the F statistic but not in experimental males (Tables 17 and 18).
To test, however, whether sex of participants was significant in results obtained, a three way analysis of variance was performed on the five variables. Results are presented in Tables 19-23.

Table 19

Results of Three Way Analysis of Variance on Social Welfare Variable

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepost</td>
<td>95.929</td>
<td>3</td>
<td>31.976</td>
<td>7.755</td>
<td>.001</td>
</tr>
<tr>
<td>Type (C and E)</td>
<td>34.267</td>
<td>1</td>
<td>34.267</td>
<td>8.310</td>
<td>.001</td>
</tr>
<tr>
<td>Sex</td>
<td>5.060</td>
<td>1</td>
<td>5.060</td>
<td>1.227</td>
<td>N/S</td>
</tr>
<tr>
<td></td>
<td>54.679</td>
<td>1</td>
<td>54.679</td>
<td>13.261</td>
<td>.001</td>
</tr>
<tr>
<td>2-Way Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepost-Type</td>
<td>5.734</td>
<td>3</td>
<td>1.911</td>
<td>0.464</td>
<td>N/S</td>
</tr>
<tr>
<td>Prepost-Sex</td>
<td>5.100</td>
<td>1</td>
<td>5.100</td>
<td>1.237</td>
<td>N/S</td>
</tr>
<tr>
<td>Type-Sex</td>
<td>0.491</td>
<td>1</td>
<td>0.491</td>
<td>0.119</td>
<td>N/S</td>
</tr>
<tr>
<td></td>
<td>0.294</td>
<td>1</td>
<td>0.294</td>
<td>0.071</td>
<td>N/S</td>
</tr>
<tr>
<td>3-Way Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepost-Type-Sex</td>
<td>31.801</td>
<td>1</td>
<td>31.801</td>
<td>7.712</td>
<td>.01</td>
</tr>
<tr>
<td>Explained</td>
<td>133.464</td>
<td>7</td>
<td>19.066</td>
<td>4.624</td>
<td>.01</td>
</tr>
<tr>
<td>Residual</td>
<td>2127.662</td>
<td>516</td>
<td>4.123</td>
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<td></td>
</tr>
</tbody>
</table>

Table 19 indicates that, on the Social Welfare variable, overall significant effects were obtained between prepost tests (.001), between males and females (.001), but not between experimental and control groups. Two way interactions compared type (E and C) with prepost results, and results were not significant. Sex was then compared to prepost results and to type. Results were not significant.
Three way interactions compared prepost, type, and sex. Results were significant (.01). Thus, in the findings on this variable, sex did play a significant part in the outcome. The significant gain by control females, the regression of control males, the significant gain by experimental males, and the lack of significant gain by experimental females all contributed to the finding that sex of participants was significant over all, but not significant on pre-post results within groups.

Table 20

Results of Three Way Analysis of Variance on Duty Variable

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p =</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>122.576</td>
<td>3</td>
<td>40.859</td>
<td>11.017</td>
<td>.001</td>
</tr>
<tr>
<td>Prepost</td>
<td>14.115</td>
<td>1</td>
<td>14.115</td>
<td>3.806</td>
<td>.05</td>
</tr>
<tr>
<td>Type (C and E)</td>
<td>6.112</td>
<td>1</td>
<td>6.112</td>
<td>1.651</td>
<td>N/S</td>
</tr>
<tr>
<td>Sex</td>
<td>99.441</td>
<td>1</td>
<td>99.441</td>
<td>28.813</td>
<td>.001</td>
</tr>
<tr>
<td>2-Way Interactions</td>
<td>32.572</td>
<td>3</td>
<td>10.857</td>
<td>2.928</td>
<td>.05</td>
</tr>
<tr>
<td>Prepost-Type</td>
<td>30.077</td>
<td>1</td>
<td>30.077</td>
<td>8.110</td>
<td>.01</td>
</tr>
<tr>
<td>Prepost-Sex</td>
<td>0.824</td>
<td>1</td>
<td>0.824</td>
<td>0.222</td>
<td>N/S</td>
</tr>
<tr>
<td>Type-Sex</td>
<td>1.060</td>
<td>1</td>
<td>1.060</td>
<td>0.286</td>
<td>N/S</td>
</tr>
<tr>
<td>3-Way Interactions</td>
<td>13.918</td>
<td>1</td>
<td>13.918</td>
<td>3.753</td>
<td>N/S</td>
</tr>
<tr>
<td>Prepost-Type-Sex</td>
<td>13.918</td>
<td>1</td>
<td>13.918</td>
<td>3.753</td>
<td>N/S</td>
</tr>
<tr>
<td>Explained</td>
<td>169.066</td>
<td>7</td>
<td>24.152</td>
<td>6.512</td>
<td>.001</td>
</tr>
<tr>
<td>Residual</td>
<td>1913.672</td>
<td>516</td>
<td>3.709</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The effects of sex in the two and three way interactions are not significant in Table 20, thus indicating that sex does not have a significant differential impact upon pre-post results nor upon control and experimental groups. Overall, however,
results indicate that significant effects were found between males and females. This finding can be explained by examining Table 17 which displays the pretest and posttest mean scores for both males and females in experimental and control groups. Pre and posttest mean scores were higher for females in both control and experimental groups than they were for males.

Table 21

Results of Three Way Analysis of Variance on Competence Variable

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p =</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepost</td>
<td>66.759</td>
<td>3</td>
<td>22.253</td>
<td>7.943</td>
<td>.001</td>
</tr>
<tr>
<td>Type (E and C)</td>
<td>53.223</td>
<td>1</td>
<td>53.223</td>
<td>18.998</td>
<td>.001</td>
</tr>
<tr>
<td>Sex</td>
<td>8.766</td>
<td>1</td>
<td>8.766</td>
<td>3.429</td>
<td>N/S</td>
</tr>
<tr>
<td></td>
<td>4.101</td>
<td>1</td>
<td>4.101</td>
<td>1.464</td>
<td>N/S</td>
</tr>
<tr>
<td>2-Way Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepost-Type</td>
<td>50.219</td>
<td>3</td>
<td>16.740</td>
<td>5.975</td>
<td>.001</td>
</tr>
<tr>
<td>Prepost-Sex</td>
<td>33.639</td>
<td>1</td>
<td>33.639</td>
<td>12.007</td>
<td>.001</td>
</tr>
<tr>
<td>Type-Sex</td>
<td>2.158</td>
<td>1</td>
<td>2.158</td>
<td>0.770</td>
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</tr>
<tr>
<td></td>
<td>13.423</td>
<td>1</td>
<td>13.423</td>
<td>4.791</td>
<td>.05</td>
</tr>
<tr>
<td>3-Way Interactions</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Prepost-Type-Sex</td>
<td>0.288</td>
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<td>0.288</td>
<td>0.103</td>
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</tr>
<tr>
<td></td>
<td>0.288</td>
<td>1</td>
<td>0.288</td>
<td>0.103</td>
<td>N/S</td>
</tr>
<tr>
<td>Explained</td>
<td>117.266</td>
<td>7</td>
<td>16.752</td>
<td>5.980</td>
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</tr>
<tr>
<td>Residual</td>
<td>1445.602</td>
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<td>2.802</td>
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</tbody>
</table>

The effects of sex in main effects and in the three way interactions are not significant in Table 21. In the two way interactions, however, sex was found to have a significant effect upon type (.05). This source of variation can be found by checking with Table 17; it is clear that female controls had higher initial scores than control males, although gains
were not significant in either sex. On the other hand, male experimentals had higher initial scores than female experimentals. Female experimentals and male controls had nearly equal initial mean scores, while initial mean scores of male experimentals and female controls were similar. Sex of participants did not, however, have a significant impact upon outcome scores.

Table 22

Results of Three Way Analysis of Variance on Efficacy Variable

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>94.222</td>
<td>3</td>
<td>31.407</td>
<td>7.955</td>
<td>.001</td>
</tr>
<tr>
<td>Prepost</td>
<td>51.956</td>
<td>1</td>
<td>51.956</td>
<td>13.160</td>
<td>.001</td>
</tr>
<tr>
<td>Type (E and C)</td>
<td>16.382</td>
<td>1</td>
<td>16.382</td>
<td>4.149</td>
<td>.05</td>
</tr>
<tr>
<td>Sex</td>
<td>23.693</td>
<td>1</td>
<td>23.693</td>
<td>6.001</td>
<td>.05</td>
</tr>
<tr>
<td>2 Way Interactions</td>
<td>51.652</td>
<td>3</td>
<td>17.217</td>
<td>4.361</td>
<td>.01</td>
</tr>
<tr>
<td>Prepost-Type</td>
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<tr>
<td>Prepost-Sex</td>
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<td>2.747</td>
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<td>N/S</td>
</tr>
<tr>
<td>Type-Sex</td>
<td>9.986</td>
<td>1</td>
<td>9.986</td>
<td>2.529</td>
<td>N/S</td>
</tr>
<tr>
<td>3 Way Interactions</td>
<td>1.660</td>
<td>1</td>
<td>1.660</td>
<td>0.420</td>
<td>N/S</td>
</tr>
<tr>
<td>Prepost-Type-Sex</td>
<td>1.660</td>
<td>1</td>
<td>1.660</td>
<td>0.420</td>
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</tr>
<tr>
<td>Explained</td>
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<td>21.076</td>
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</tr>
<tr>
<td>Residual</td>
<td>2037.184</td>
<td>516</td>
<td>3.948</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 22 indicates that although sex had no effect upon two and three way interactions, on the Efficacy variable, significance was found on sex in main effects. A look at Table 17 explains this finding; female initial mean scores in both control and experimental groups were higher than male initial mean scores in control and experimental groups. Sex clearly differentiated
between initial mean scores; in addition female mean control scores started higher and remained higher than male control scores. The same was true for female experimental scores as compared to male experimental scores.

Table 23
Results of Three Way Analysis of Variance on Performance Variable

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td></td>
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</tr>
<tr>
<td>Prepost</td>
<td>231.118</td>
<td>3</td>
<td>77.039</td>
<td>10.784</td>
<td>.001</td>
</tr>
<tr>
<td>Type (E and C)</td>
<td>126.048</td>
<td>1</td>
<td>126.048</td>
<td>17.644</td>
<td>.001</td>
</tr>
<tr>
<td>Sex</td>
<td>62.623</td>
<td>1</td>
<td>62.623</td>
<td>8.766</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>37.082</td>
<td>1</td>
<td>37.082</td>
<td>5.191</td>
<td>.01</td>
</tr>
<tr>
<td>2 Way Interactions</td>
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<td></td>
</tr>
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<td>Prepost-Type</td>
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<td>30.658</td>
<td>4.291</td>
<td>.01</td>
</tr>
<tr>
<td>Prepost-Sex</td>
<td>79.218</td>
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<td>79.218</td>
<td>11.089</td>
<td>.01</td>
</tr>
<tr>
<td>Type-Sex</td>
<td>1.190</td>
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<td>1.190</td>
<td>0.167</td>
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<tr>
<td></td>
<td>10.316</td>
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<td>10.316</td>
<td>1.144</td>
<td>N/S</td>
</tr>
<tr>
<td>3 Way Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepost-Type-Sex</td>
<td>2.239</td>
<td>1</td>
<td>2.239</td>
<td>0.313</td>
<td>N/S</td>
</tr>
<tr>
<td></td>
<td>2.239</td>
<td>1</td>
<td>2.239</td>
<td>0.313</td>
<td>N/S</td>
</tr>
<tr>
<td>Explained</td>
<td>325.330</td>
<td>7</td>
<td>46.476</td>
<td>6.505</td>
<td>.001</td>
</tr>
<tr>
<td>Residual</td>
<td>3686.370</td>
<td>516</td>
<td>7.144</td>
<td></td>
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</tr>
</tbody>
</table>

Although sex has no significant effect in the two and three way interactions, Table 23 demonstrates that sex was significant in main effects. Table 17 shows that female control and experimental subjects had higher initial mean scores than their male counterparts. Posttest mean scores of females were also higher than males in each group.

Data from the Social and Personal Responsibility subscale lend support to the hypothesis that the experiential education
experience did have a significant effect upon students' attitudes toward helping others. Results on the social welfare and duty dimensions indicated that the students who had been involved in community based/learning service activities displayed significantly more positive attitudes in this area of responsibility than did those who had not been involved in such experiences. Experimental males made greater gains than did experimental females on the social welfare dimension even though initial female scores were higher than males. Control females also made significant gains on this variable; experimental females did not.

Experimental students made significant gains in the dimensions of skill or competence toward responsible actions and of willingness to actually take those actions in order to have an impact on the social and physical environment. Although female controls also displayed gains, those gains were not significant.

Measurement of the dimension of performance, how students perceive that they act in responsible ways, also demonstrated that experimental students made significant gains in a positive direction. Again, although female control students also demonstrated gains, these gains were not significant.

**Janis-Field Feeling of Inadequacy Sub-Scale**

The Janis-Field Feelings of Inadequacy subscale measures students' feelings of self-esteem (adequacy or inadequacy) in social situations (i.e.: speaking to new people, handling
a class discussion situation, etc.). The Inadequacy (Inad) variable was measured by both the $t$-test and the one way analysis of variance.

Table 24

<table>
<thead>
<tr>
<th>Variable</th>
<th>(N)</th>
<th>Pretest Mean/SD</th>
<th>Posttest Mean/SD</th>
<th>Mean Gain</th>
<th>$t$-value</th>
<th>$p = (2\text{ tail})$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>126</td>
<td>34.44</td>
<td>35.79</td>
<td>1.35</td>
<td>2.87</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.08</td>
<td>4.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>136</td>
<td>33.24</td>
<td>36.11</td>
<td>2.86</td>
<td>4.52</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.60</td>
<td>5.95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Both control and experimental subjects demonstrated significant growth on this variable.

Table 25 presents results of a one way analysis of variance on the Inadequacy variable.

Table 25

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>$F$</th>
<th>$p = $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>114.683</td>
<td>1</td>
<td>114.683</td>
<td>5.028</td>
<td>.05</td>
</tr>
<tr>
<td>W/G</td>
<td>5702.206</td>
<td>250</td>
<td>22.809</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>556.327</td>
<td>1</td>
<td>556.327</td>
<td>16.668</td>
<td>.001</td>
</tr>
<tr>
<td>W/G</td>
<td>9011.551</td>
<td>270</td>
<td>33.376</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results of the $t$-test were reinforced by the one way ana-
lysis of variance; results of both groups were significant on both tests. Although the pretest control mean was higher than the experimental mean, and although both groups made statistically significant gains, the experimental group's mean gain score was twice that of the control group.

To determine whether sex of participants had an effect upon gain scores, Inadequacy data were analyzed by examining program effects upon male and female subjects. Results of the t-test and the one way analysis of variance are presented in Tables 26 and 27.

Table 26

Janis-Field Feelings of Inadequacy Subscale
Prepost Means and Mean Gains for Experimental and Control Groups Differentiated by Males and Females on Inadequacy Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>(N)</th>
<th>Pretest Mean/sd</th>
<th>Posttest Mean/sd</th>
<th>Mean Gain</th>
<th>t-value</th>
<th>p = 12 tail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>49</td>
<td>34.55 4.96</td>
<td>35.46 4.16</td>
<td>.92</td>
<td>1.23</td>
<td>N/S</td>
</tr>
<tr>
<td>Experimental</td>
<td>46</td>
<td>33.04 5.74</td>
<td>35.91 6.43</td>
<td>2.87</td>
<td>2.65</td>
<td>.05</td>
</tr>
<tr>
<td>Males</td>
<td>77</td>
<td>34.36 5.18</td>
<td>35.99 4.65</td>
<td>1.62</td>
<td>2.67</td>
<td>.01</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>90</td>
<td>33.34 5.55</td>
<td>36.20 5.73</td>
<td>2.86</td>
<td>3.64</td>
<td>.001</td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 26 reveals that females in both control and experimental groups registered a statistically significant gain on the Inadequacy variable. Experimental males registered a sig-
significant gain, but control males did not. The latter, however, did gain, but not significantly.

Table 27 presents results of a one way analysis of variance on the Inadequacy variable as differentiated by males and females.

Table 27

Janis-Field Feelings of Inadequacy Subscale
Results of One Way Analysis of Variance on Experimental and Control Groups Differentiated by Males and Females on the Inadequacy Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F</th>
<th>p =</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>B/G</td>
<td>20.663</td>
<td>1</td>
<td>20.663</td>
<td>.986</td>
</tr>
<tr>
<td></td>
<td>W/G</td>
<td>2012.327</td>
<td>96</td>
<td>20.962</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>B/G</td>
<td>189.391</td>
<td>1</td>
<td>189.391</td>
<td>5.107</td>
</tr>
<tr>
<td></td>
<td>W/G</td>
<td>3337.565</td>
<td>90</td>
<td>37.084</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>B/G</td>
<td>101.461</td>
<td>1</td>
<td>101.461</td>
<td>4.190</td>
</tr>
<tr>
<td></td>
<td>W/G</td>
<td>3680.805</td>
<td>152</td>
<td>24.216</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>B/G</td>
<td>366.939</td>
<td>1</td>
<td>366.939</td>
<td>11.522</td>
</tr>
<tr>
<td></td>
<td>W/G</td>
<td>5668.922</td>
<td>178</td>
<td>31.847</td>
<td></td>
</tr>
</tbody>
</table>

Table 27 reinforces the results shown on Table 26. The results of both tables indicate that significant gains shown by the control group on Tables 24 and 25 are attributable to significant gains on the Inadequacy scale by female control students.

Data on the Inadequacy variable were further analyzed to determine whether sex of participants was significant in the results obtained. The results are presented in Table 28.
Table 28

Results of Three Way Analysis of Variance on Inadequacy Variable

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>627.862</td>
<td>3</td>
<td>209.287</td>
<td>7.347</td>
<td>.001</td>
</tr>
<tr>
<td>Pre-Post</td>
<td>596.338</td>
<td>1</td>
<td>596.338</td>
<td>20.935</td>
<td>.001</td>
</tr>
<tr>
<td>Type (C and E)</td>
<td>26.412</td>
<td>1</td>
<td>26.412</td>
<td>0.927</td>
<td>N/S</td>
</tr>
<tr>
<td>Sex</td>
<td>6.393</td>
<td>1</td>
<td>6.393</td>
<td>0.224</td>
<td>N/S</td>
</tr>
<tr>
<td>2 Way Interactions</td>
<td>78.716</td>
<td>3</td>
<td>26.239</td>
<td>0.921</td>
<td>N/S</td>
</tr>
<tr>
<td>Prepost-Type</td>
<td>72.765</td>
<td>1</td>
<td>72.765</td>
<td>2.554</td>
<td>N/S</td>
</tr>
<tr>
<td>Prepost-Sex</td>
<td>3.543</td>
<td>1</td>
<td>3.543</td>
<td>0.124</td>
<td>N/S</td>
</tr>
<tr>
<td>Type-Sex</td>
<td>0.501</td>
<td>1</td>
<td>0.501</td>
<td>0.018</td>
<td>N/S</td>
</tr>
<tr>
<td>3 Way Interactions</td>
<td>3.902</td>
<td>1</td>
<td>3.902</td>
<td>0.137</td>
<td>N/S</td>
</tr>
<tr>
<td>Prepost-Type-Sex</td>
<td>3.902</td>
<td>1</td>
<td>3.902</td>
<td>0.137</td>
<td>N/S</td>
</tr>
<tr>
<td>Explained</td>
<td>710.480</td>
<td>7</td>
<td>101.497</td>
<td>3.563</td>
<td>.01</td>
</tr>
<tr>
<td>Residual</td>
<td>14698.609</td>
<td>516</td>
<td>28.486</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 28 indicates that the effect of sex was not significant on main effects, two way interactions, nor on three way interactions. The only significant source of variation in the table was between pre and post results.

Data from the Janis-Field Feelings of Inadequacy subscale tend to support the hypothesis that the experiential education experience did have a significant effect upon students' perception of their self-esteem, although the degree of gain was only slightly more significant than that of students who were not involved in the experiential program. Females involved only in traditional school programs experienced greater gains than did males; male control gains were positive, but not significant.
Student absence was measured by the t-test and the one way analysis of variance.

Table 29
Absence-Pre-Post Means and Mean Decreases for Experimental and Control Groups on Absence Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>(N)</th>
<th>Pretest Mean/SD</th>
<th>Posttest Mean/SD</th>
<th>Mean Decrease</th>
<th>t-value</th>
<th>p=(2tail)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>126</td>
<td>5.93</td>
<td>5.36</td>
<td>-.57</td>
<td>-.91</td>
<td>N/S</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.63</td>
<td>5.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>136</td>
<td>4.88</td>
<td>3.08</td>
<td>-1.80</td>
<td>-4.52</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>83.34</td>
<td>83.14</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The decrease in absence was highly significant (.001) for the experimental group, but not significant for the control group.

Table 30 presents the results of a one way analysis of variance on the Absence variable.

Table 30
Results of One Way Analysis of Variance on Experimental and Control Groups on the Absence Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F</th>
<th>p =</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>B/G</td>
<td>20.67</td>
<td>1</td>
<td>20.67</td>
<td>.8368</td>
</tr>
<tr>
<td></td>
<td>W/G</td>
<td>6175.33</td>
<td>250</td>
<td>24.701</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>B/G</td>
<td>220.68</td>
<td>1</td>
<td>220.68</td>
<td>20.788</td>
</tr>
<tr>
<td></td>
<td>W/G</td>
<td>2866.23</td>
<td>270</td>
<td>10.616</td>
<td></td>
</tr>
</tbody>
</table>
Results of the $t$-test and the one way analysis of variance reinforce one another. Although the control group made slight gains in lowering the mean absence rate, those gains were not significant. The experimental group's mean gains in the lowering of absence were, however, highly significant (0.001) in both analyses.

In order to determine whether sex of participants had an effect upon the decrease of absence, data were further analyzed by examining program effects upon male and female subjects. Results of the $t$-test and the one way analysis of variance are presented in Tables 31 and 32.

Table 31

<table>
<thead>
<tr>
<th>Variable</th>
<th>(N)</th>
<th>Pretest Means/sd</th>
<th>Posttest Means/sd</th>
<th>Mean Decreases</th>
<th>$t$-value</th>
<th>$p=$(2 tail)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>49</td>
<td>6.04</td>
<td>5.46</td>
<td>-.58</td>
<td>-.66</td>
<td>N/S</td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td>5.78</td>
<td>6.44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>46</td>
<td>4.80</td>
<td>3.10</td>
<td>-1.70</td>
<td>-2.46</td>
<td>.01</td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td>3.60</td>
<td>2.95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>77</td>
<td>5.72</td>
<td>5.28</td>
<td>-.44</td>
<td>-.69</td>
<td>N/S</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td>3.71</td>
<td>4.33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>90</td>
<td>4.92</td>
<td>3.06</td>
<td>-1.86</td>
<td>-3.88</td>
<td>.001</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td>3.21</td>
<td>3.23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 31 indicates that male and female experimental subjects significantly decreased the mean number of absence days. Although both male and female control subjects registered a slight decrease in the mean numbers of days absent, those decreases were not significant.

Table 32 presents the results of a one way analysis of variance on the Absence variable as differentiated by male and female control and experimental subjects.

Table 32
Absence--Results of One Way Analysis of Variance on Experimental and Control Groups Differentiated by Males and Females on the Absence Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F</th>
<th>p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Males</td>
<td>B/G</td>
<td>14.6959</td>
<td>1</td>
<td>14.6959</td>
<td>.3848</td>
</tr>
<tr>
<td></td>
<td>W/G</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Males</td>
<td>B/G</td>
<td>66.13</td>
<td>1</td>
<td>66.13</td>
<td>5.9655</td>
</tr>
<tr>
<td></td>
<td>W/G</td>
<td>997.7</td>
<td>90</td>
<td>11.0855</td>
<td></td>
</tr>
<tr>
<td>Control Females</td>
<td>B/G</td>
<td>7.51</td>
<td>1</td>
<td>7.51</td>
<td>.4566</td>
</tr>
<tr>
<td></td>
<td>W/G</td>
<td>2499.99</td>
<td>152</td>
<td>16.4473</td>
<td></td>
</tr>
<tr>
<td>Experimental Females</td>
<td>B/G</td>
<td>154.94</td>
<td>1</td>
<td>154.94</td>
<td>14.7636</td>
</tr>
<tr>
<td></td>
<td>W/G</td>
<td>1868.06</td>
<td>178</td>
<td>10.4947</td>
<td></td>
</tr>
</tbody>
</table>

Table 32 reinforces the results of Table 31. Decreases in Absence made by male and female experimental students are significant; slight decreases in absence made by male and female control students are not significant.

Data from the absence subscale tends to support the hypo-
thesis that the experimental education experience did have a significant effect upon students' attendance. Experimental students decreased their days of absence from an average of 4.88 days during the school quarter preceding the experience to an average of 3.08 days during the experience. Control students had more days of absence, on the average, both before (5.93) and during (5.36) the quarter in which they were tested. Initially, it was thought that this difference between the control and experimental groups' mean pre-absence days would render this variable heterogeneous. The $t$-test between experimental and control group pretest variances and means, however, indicated that the difference was not significant. Non significant differences determined by this test were primarily a result of nearly equal pretest variances (21.9474 Control and 21.2896 Experimental—Table 6).

**Disciplinary Referrals**

Disciplinary referrals were measured by the number of times a student was sent to the school office by teachers during the quarter prior to and during the experiential education experience. The number of referrals were much lower than the writer expected them to be. Very few students from either group had been referred for the reasons which were accepted in this study as true offenses: cutting class, fighting, verbal and physical assaults on teachers, students and staff; classroom disruptions; smoking in the school building; drinking alcohol on school property.
During the quarter prior to the experiential education experience, only seven of the 136 experimental students and eleven of the 126 control students were referred to the school office. Only one of the eleven control students was referred twice. During the quarter of the experience, no student was referred.

Tables 33 and 34 present the results of a _-test and a one way analysis of variance on the referral variable.

### Table 33
Pre-Post Means and Mean Decreases for Experimental and Control Groups on Absence Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>(N)</th>
<th>Pretest Mean/sd</th>
<th>Posttest Mean/sd</th>
<th>Mean Decrease</th>
<th>t-value</th>
<th>p=2 taill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>136</td>
<td>.0514</td>
<td>0</td>
<td>-.0514</td>
<td>-2.7052</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.2210</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>126</td>
<td>.0952</td>
<td>0</td>
<td>-.0952</td>
<td>-3.3404</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.3194</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 34
Results of One Way Analysis of Variance on Experimental and Control Groups on Absence Variable

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F</th>
<th>p =</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>B/G  .5715</td>
<td>1</td>
<td>.5715</td>
<td>11.1186</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>W/G  12.8571</td>
<td>250</td>
<td>.0514</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>B/G  .1802</td>
<td>270</td>
<td>.1802</td>
<td>7.3252</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>W/G  6.6398</td>
<td>270</td>
<td>.0246</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Because no students from either group were referred during the quarter of the experience, results of both analyses were highly significant for the control and experimental groups.

During the quarter prior to the experience eight male and three female control students were referred, one of the females was referred twice. Three male and four female experimental students were referred. Each one was referred only once.

Correlation of Variables

An additional analysis was performed on nine of the variables in order to determine whether there was significant intercorrelation among them. Table 36 displays the results of those variables which were significantly correlated. Significance levels for \( r \) (Correlation Coefficient) were determined by the table below (Table 35) on the pooled-within-groups correlation matrix.

<table>
<thead>
<tr>
<th>DF</th>
<th>.05</th>
<th>.01</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>.138</td>
<td>.181</td>
</tr>
<tr>
<td>300</td>
<td>.113</td>
<td>.148</td>
</tr>
</tbody>
</table>

(Snedecor & Cochran, 1963, p. 385)
### Table 36
Pooled Within Groups Correlation Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career</td>
<td>Tradcar</td>
<td>0.68581</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Compet</td>
<td>0.25608</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Effic</td>
<td>0.35423</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Soc. Welf.</td>
<td>0.29511</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Duty</td>
<td>0.30427</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Perform</td>
<td>0.38395</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Inad</td>
<td>0.15447</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Absence</td>
<td>0.02087</td>
<td>N/S</td>
</tr>
<tr>
<td>Tradcar</td>
<td>Compet</td>
<td>0.18945</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Effic</td>
<td>0.28908</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Soc. Welf.</td>
<td>0.17866</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Duty</td>
<td>0.29868</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Perform</td>
<td>0.35078</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Inad</td>
<td>0.15905</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Absence</td>
<td>-0.09562</td>
<td>N/S</td>
</tr>
<tr>
<td>Compet</td>
<td>Effic</td>
<td>0.43836</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Soc. Welf.</td>
<td>0.26245</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Duty</td>
<td>0.33885</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Perform</td>
<td>0.51971</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Inad</td>
<td>0.29982</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Absence</td>
<td>0.01785</td>
<td>N/S</td>
</tr>
<tr>
<td>Effic</td>
<td>Soc. Welf.</td>
<td>0.39491</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Duty</td>
<td>0.41763</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Perform</td>
<td>0.47839</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Inad</td>
<td>0.20579</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Absence</td>
<td>0.05325</td>
<td>N/S</td>
</tr>
<tr>
<td>Soc. Welf.</td>
<td>Duty</td>
<td>0.47497</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Perform</td>
<td>0.45482</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Inad</td>
<td>0.21491</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Absence</td>
<td>0.03242</td>
<td>N/S</td>
</tr>
<tr>
<td>Duty</td>
<td>Perform</td>
<td>0.51096</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Inad</td>
<td>0.20478</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Absence</td>
<td>-0.03697</td>
<td>N/S</td>
</tr>
<tr>
<td>Perform</td>
<td>Inad</td>
<td>0.29669</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Absence</td>
<td>-0.13076</td>
<td>0.05</td>
</tr>
<tr>
<td>Inad</td>
<td>Absence</td>
<td>0.03856</td>
<td>N/S</td>
</tr>
</tbody>
</table>
Although a large number of significant correlations were produced among variables, as expected, the highest correlations were among items which were included on the same subscales. The highest intercorrelation (.68561) was between Career and Tradcar, the two variables which comprised the Career Exploration subscale. Correlations between the Career Exploration subscale variables and those of the Social and Personal Responsibility subscale (SPRS) ranged from a low of .17866 to a high of .38395, clearly significant but not of the magnitude of Career with Tradcar.

Variables which comprised the SPRS (Compet, Effic, Soc Welf, Duty, and Perform) correlated highly among themselves; all but one correlation ranged from a low of .33885 to a high of .51971. Compet and Soc. Welf. had correlation of only .26245.

Inad, the one variable on the Janis-Field Feelings of Inadequacy Scale, correlated with Career subscale items at .15447 and .15905. Its correlation with SPRS items was higher, ranging from a low of .20478 to a high of .29982.

No variable except Perform produced significant correlations with absence. That correlation was barely significant at -.13076.

Results of the Pooled Within Groups Correlation Matrix indicate that variables were appropriately grouped on the subscales, and although there were significant correlations, those of the highest magnitude appeared, as expected, on the same subscale.
Interviews

In depth interviews were conducted with ten students and five teachers in order to discuss with them their perceptions of the nature of their experiences and their suggestions for the development of effective ways to tie experiences into regular classroom work.

The ten students were interviewed separately for a period of one-half hour. Questions were based upon identifying those segments of the program students found most successful and their perceptions of their own positive impact upon others. Eight of the ten rated their experiences as excellent; two rated theirs as good. Experiences varied but included elementary school tutoring of skill deficient children, service in a nursing home and a senior citizen's center, office experience in a non profit community service organization, and physical and educational service to mentally and emotionally handicapped children in a special school.

Students stated that their experiences were generally extremely positive because site sponsors were well informed of the nature of the program. Students felt accepted and needed by persons with whom they worked; one frequently heard statement was that people appreciated their services and permitted them to make and carry out decisions within the framework of the site's structure.

Students felt that reflective seminars which were carried
periodically with program coordinators at the school and within their classrooms were an extremely important component. One student who was involved with severely handicapped students felt that her ability to deal effectively with these children was greatly promoted by being able to discuss her feelings and her experiences with school classmates.

Other statements given by students upon the success of their experiences centered around increased feelings of self worth in terms of being able to make change in their own lives and having a positive effect upon the lives of others, particularly those who needed help, such as the elderly, the sick, the educationally deficient. A number of students expressed pleasure with the respect persons at the site gave them, with the expertise and increased knowledge they had acquired, and with the feeling that they were "doing something" significant to make a better community. They felt that they were trusted by adults to perform in a responsible, mature manner and were considered to be competent, intelligent people.

In order to make the program more effective, students felt that all teachers should be consistent in their expectations of students involved in community learning/service activities. Some teachers were extremely accommodating to students in permitting them to make up work and in seeing that they received summaries of missed lessons. A few teachers tended to regard the experience as an intrusion upon their classroom activities.
Students also expressed a desire for an expansion of the experience. All ten felt that an entire semester or a year of one day a week experiences would be preferable to experiences of only thirty hours duration.

The five teachers who were interviewed were also supportive of the program. They felt that positive aspects included increased student interest in subject matter as a result of reflective seminars which tied experiences to classroom instruction, more cooperative classroom attitudes and better attendance on the part of students involved in community experiences, more maturity in decision making skills, and more responsibility taken for their own decisions. They found the seminars extremely helpful, not only for individual students to tie their experiences to classroom learning, but also for students to share different experiences and insights they had developed during those experiences.

Teachers suggested that program improvement would be effective by varying the time framework of community experiences. They felt that longer, intensive experiences would be beneficial to students. One teacher suggested that students be assigned to sites daily for an entire school quarter, with classroom instruction carried out the remaining three quarters. One problem they saw was one which arose with transportation of students; because of the distance to some sites, a number of students lost time in transit.
Overall, student and teacher response was extremely positive. An action plan for the program was developed by school coordinators with the involvement of teachers and students. This plan addresses present and future direction and is included as Appendix G.

Summary

Chapter Four presented data relating to the impact of experiential education programs on various attitude scales, on absence, and on disciplinary referrals of high school control and experimental students.

Pretest means and variances were examined by a t-test to determine homogeneity. Although one variable (Tradcar) was found to be heterogeneous, further examination with an F-ratio test produced enough evidence of homogeneity for it to be included in the analysis.

Analysis of Career Exploration subscale variables (Career and Tradcar) revealed that control and experimental group students showed significant gains on both variables. Further analysis revealed that control group gains were caused by control females on both the Career and Tradcar Variables. Experimental students, however, showed the strongest gains on both variables. The data implied that career information may be gained through both traditional classroom instruction and through "hands on" experiences. Experiences outside the classroom provided greater gains for students than did classroom
experiences alone. Male students who received experiential education experiences made greater gains than did females on both variables.

Data on the Social and Personal Responsibility subscale (SPRS) measured the impact of the experimental learning programs on social development of students on Social Welfare, Duty, Competence, Efficacy, and Performance variables. Experimental subjects made significant gains on all variables, particularly on Performance, Efficacy, and Competence, while control subjects made no significant gains on any variable. Further analysis revealed that female experimental subjects gained significantly on all variables except social welfare. Female control subjects demonstrated a significant gain on the social welfare variable but not on any other variable. Highly significant findings for total group experimental subjects may have been partially the result of diminished posttest scores on the part of control males.

Data tended to support the hypothesis that the experiential education did have a significant effect upon students' attitudes toward helping others.

Results of the Janis-Field Feelings of Inadequacy subscale, which measures students' feelings of self esteem in social situations, indicated that although both control and experimental students made significant gains, the experimental group's mean gain score was twice that of the control group. Further analysis
revealed that control group gains were due to significant gains on the part of females but not of males. Data tended to support the hypothesis that the experiential education programs did have a significant effect upon students' perception of their self esteem, although the degree of gain was only slightly more significant overall than was that of students not involved in the program.

Results of the analysis of absence indicated that although both groups had lowered absence rates, the experimental groups' lowered rate was highly significant. Both female and male experimental students experienced large and significant decreases. Although control students had more initial days than experimental students, this initial difference was not significant. Additionally, although their absence rate also decreased, the decrease was not significant.

The numbers of disciplinary referrals for both experimental and control students were initially small and no student was referred for misbehavior during the course of the experience. Results of this analysis were, therefore, highly significant for both groups.

Students and teachers involved in the experiential program were interviewed to determine their perceptions about the program's success and needs for improvement. All reported extremely positive feelings about most program aspects with students reporting that they learned more and felt more responsible
and capable for having been involved in the program. A key determinant of the program's success may have been the reflective seminars which were held so that experiences could be effectively tied to classroom learning.
Chapter V
Summary and Conclusions

This chapter includes a review of the purpose and procedures of the study, a summary of results, a discussion of the implications of the results, and a presentation of conclusions and recommendations for further research.

Review of Study

This study was designed to measure selected changes in urban high school students as a result of community involvement and participation, and to determine whether students who experienced such community service displayed more positive attitudes toward learning than students who had not experienced community service. Changes were investigated in the areas of: student attitudes toward future life goals as measured by actual behaviors in planning and exploring careers, feelings of personal adequacy or inadequacy as measured by self-esteem in social situations, attitudes toward helping others as measured by social and personal responsibility indices, attitudes toward responsible community and school citizenship as measured by attendance and disciplinary referrals.

Previous investigators have discussed the difficulty of measuring changes in student behavior as a result of involvement in experiential education programs; Hamilton (1979), in particular, delineated the need to carefully design studies which might obtain evidence at the experimental or quasi-experimental
level. Contemporary advocates of the theories of John Dewey generally agreed that his concepts are still relevant as a broad base of school experiential education programs.

Selected research on experiential education programs indicated that social growth investigations tended to be most successful when they involved older students in communal living situations; these investigations were hampered primarily by small sample size and previous volunteer experiences. Studies in aspects of psychological learning, such as self concept and moral judgment development, indicated that these constructs are amenable to positive change. Although research findings were mixed, a number of attempts found that deliberate intervention helped to raise moral reasoning and self concept levels. The few studies that were found in the area of intellectual functioning indicated that experiential education programs were rarely successful in raising students' school achievement beyond levels demonstrated in conventional education programs.

The present study measured aspects of social and psychological changes in students by administering three subscales of the Experiential Education Questionnaire: Career Exploration subscale, Janis-Field Feelings of Inadequacy scale, and the Social and Personal Responsibility Subscale, and by counting numbers of absence days and student disciplinary referrals both before and after the experiential education experience.

The population for this study originally included three
hundred students enrolled in the "general" course of study in an urban comprehensive high school of over two thousand students; one hundred fifty comprised the control group and one hundred fifty comprises the experimental group. A pretest composed of the three subscales was administered to each group, and absence days and disciplinary referrals were compiled for each student for the school quarter (45 day period) prior to the experiential education experience. The subscales consisted of forty-six items covering behaviors in planning and exploring careers, in performing in actual social situations, and in determining responsibility for personal and social acts.

Experimental group students were matched to community learning/service sites where they completed thirty hours of activities in such areas as: tutoring of elementary and junior high school children; assisting in various aspects of health care in hospitals and health centers; aiding the elderly in nursing homes and senior citizen centers; and serving learning in a variety of profit and non profit corporations and service centers. Experimental students completed their thirty hours of experience during regularly scheduled class time; experiences were tied into class work by scheduled seminars and by classroom discussions.

Control group students did not receive community learning/service activities, but held expectations that they would be involved in such experiences during the spring semester.
After experimental students had completed thirty hours of learning/service activities, both control and experimental groups were posttested on the three subscales of the Experiential Education Questionnaire. Absence days and disciplinary referrals were also compiled for both groups during the school quarter in which the experiences took place.

Of the original three hundred students, one hundred twenty-six control and one hundred thirty-six experimental students completed the posttests. The status of pre and posttest eliminations was detailed in Table 2.

The original forty-six variables which comprised the three subscales were grouped into eight clusters for more effective analysis. Absence and referral variables were treated as separate variables for a total of ten clustering variables.

A $t$-test was then performed on pretest control and experimental group sample means and variances in order to determine whether the groups were suitable for comparison.

In order to test the research hypotheses, data were subjected to a paired sample $t$-test, a one way analysis of variance, a three way analysis of variance, and a discriminant analysis.

Changes within experimental and control groups were calculated by comparing pre and posttest means and variances in each group treating the groups as wholes, and then by examining males and females separately.
Results and Conclusions

The following research hypotheses were tested:

$H_{0_1}$: There is a difference in attitudes toward school, toward helping others, and toward future life goals as measured by three attitude scales between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.

$H_{0_2}$: There is a difference in the level of active community involvement and students' commitment to the educational goal of responsible citizenship as measured by better school attendance between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.

$H_{0_3}$: There is a difference in the level of active community involvement and students' commitment to the educational goal of responsible citizenship as measured by fewer school disciplinary offenses between urban high school students who are involved in a community based learning/service experience and those who are not involved in such an experience.

These research hypotheses were supported. Results from measures employed in this study demonstrated that the exper-
iential community learning/service program did have a positive effect upon aspects of the psychological and social development of participants. Specific outcomes from various measures employed are summarized below.

Social Development

Students in the experiential program demonstrated positive and significant change on the Career Exploration Subscale, on the Social and Personal Responsibility Subscale (SPRS), on school attendance, and on disciplinary referrals.

On the Career Exploration Subscale, both experimental and control groups demonstrated significant increases, with the most positive change recorded by the experimental group. This finding substantiated that of an earlier study (Conrad, 1979). On the Career variable, the experimental mean gain was three times higher than that of the control group; on the Tradcar variable, it was nearly seven times higher. Further analyses of female and male control and experimental results indicated that the significant gains recorded by control group students on both variables were caused by gains made by female control subjects. Conversely, although experimental group gains were significant in both males and females, greater mean gains were demonstrated by experimental males than by experimental females. Although experimental males initially scored lower on the pre-test means than did experimental females, their posttest mean scores were higher on both variables than were female experi-
mental scores.

Students in the experiential program also demonstrated significant positive change on all variables of the Social and Personal Responsibility Subscale (SPRS) while control subjects did not demonstrate significant gains on any variable. Experimental subjects recorded greatest gains on performance, efficacy, and competence variables. The finding of greater gains on competency and efficacy substantiated a similar finding in the Conrad study (1979). Analysis of the results as differentiated by males and females indicated that male experimental students demonstrated significant gains on all variables in the subscale, while male control subjects demonstrated no gains on any variable. On four of the variables, their mean posttest score was lower than the pretest score; on the Competence Variable, it remained the same. Female experimental subjects demonstrated significant gains on all variables except on the Social Welfare Variable; female control subjects demonstrated significant gains on the Social Welfare Variable, but their gains were not significant on any other variables.

On the Social Welfare Variable, experimental male mean gains were over four times higher than experimental female gains; on the duty variable they were nearly twice as high. On the remaining three variables, mean gain scores were similar.

On the absence variable, experimental group students demonstrated significant decreases in mean days of absence while
control students demonstrated non-significant mean decreases. Significant decreases occurred in both male and female experimental students; decreases in male and female control students were not significant. Although control group students demonstrated significantly larger pretest absence than did experimental group students, the significant decrease in absence days of experimental students still made this analysis a valuable one.

Analysis of the disciplinary referral variable was conducted even though initial mean scores were lower than they were expected to be. Few students from either group were referred to the school office during the quarter prior to the learning/service activity although more control group students than experimental students were referred. During the experience, no student from either group was referred.

**Psychological Development**

Both control and experimental students demonstrated significant mean score changes on the Janis Field measures of self-esteem; the experimental group's mean gain score, however, was twice that of the control group's mean gain score. The finding of gains by both groups substantiated the results of the Conrad study (1979). Conrad's results led him to the conclusion that this psychological dimension was one on which secondary students in general show growth. Additional analysis on male and female subjects demonstrated that the significance of control group gains on this variable was due to gains made by female control
subjects. Male control group gains were not significant.

Students who were interviewed indicated that the reflective component of the program helped them to understand the people with whom they worked, to perform better on their learning/service tasks, and to make decisions and to continue performing in a responsible manner.

In his study of a large variety of experience-based programs, Conrad (1979) found students who participated in programs with a reflective seminar tended to demonstrate the greatest mean gain scores. The largest gain scores he recorded were similar to the magnitude of the gain scores demonstrated in this study.

Conclusions

The following are major conclusions of this study:

1. Students who are involved in experiential learning/service programs demonstrate positive and significant gains in career planning and career exploration behaviors.

2. Students who are involved in experiential learning/service programs demonstrate positive and significant gains in responsible attitudes toward others, in competence to act upon the feeling of concern for others, and in the sense of efficacy which permits one to believe that taking action and demonstrating concern can make a difference.

3. Students who are involved in experiential learning/service programs demonstrate positive and significant gains in
their feelings of self esteem and personal adequacy in social situations.

4. Students who are involved in experiential learning/service programs demonstrate positive and significant gains in school attendance and in acceptable social behaviors.

**Discussion of Results**

This discussion examines the implications of study results bearing on the research hypotheses and the theoretical framework. It also examines some practical implications of the study.

**Implications of Results Bearing on Hypotheses**

On all ten variable categories included in this study, experimental students demonstrated significant change in a positive direction. The overall scores of students in the community based learning/service program showed that this program promoted positive attitudes toward school, toward helping others, toward future life goals, and toward the educational goal of responsible citizenship as defined in this study.

The first two variables, Career and Tradcar, were concerned with career exploration and planning. On these variables, both control and experimental students registered statistically significant gains, although experimental gains were much larger than control gains. When the variables were analyzed for differentiating effects on males and females, male control group students registered a gain that was slightly under the .05 significance level. These results supported closely the results
of an earlier study (Conrad, 1979). Conrad also stressed, that in programs which concentrated on human service activities, although there was no emphasis, as such, on career exploration guidance by high school staff, control and experimental scores still significantly increased. Increases in the experimental group which were found in the current study, which also concentrated on human services activities, exceeded those found by Conrad.

One reason for this was the emphasis which is a focus of the total school program in the particular urban high school involved in the current study. Throughout the educational system of which that school is a part, career emphasis is a key objective. Citywide, focus has been placed upon stressing the development of future career paths for students, particularly in the high school. Additionally, the school which was involved in the study has planned and is carrying out a program of career emphasis which includes intensive training in a federally funded program, Career Planning Support Systems (CPSS) and periodic seminars held by school alumni which focus on overviews of career fields in which alumni are involved. Teachers in various subject areas also spend classroom time in seeing that students are familiar with aspects of career planning and job seeking skills. Thus, for all students, the school has aided in focusing on traditional career items. Results found in the area of career exploration were consistent with previous findings.
On Social and Personal Responsibility Scale (SPRS), experimental group students demonstrated significant gains on all five variables. Highest gains were registered on items measuring competence, one's perceptions of the skill needed to take responsible actions; efficacy, one's willingness to take responsible actions in order to have an impact upon the social and physical environment; and performance, one's perception of how he does act in responsible ways. Gains in these areas substantiated findings by Conrad who discovered that students involved in programs with reflective seminars demonstrated higher gains than those in programs without reflective seminars (Conrad, 1979, p. 159). Dewey also stressed the necessity of active reflection in his theoretical constructs (Dewey, 1918/1972, p. 82) and other theoreticians supported this view (Frankena, 1965, p. 144; Coleman, 1979, pp. 8-9; Combs, 1978, p. 302; Wegner, 1976). Findings of the current study supported the importance of these constructs. Gains on social welfare items (one's concern with others) and duty (one's concern with the meeting of social obligations) were also significant for experimental group students. Gains in the area of assuming the skills, the need, and the ability to take responsible actions are consistent with previous findings (Reicken, 1952; Smith, 1966; Marsh, 1973; Wilson, 1974; Corbett, 1977; Stockhaus, 1976).

An interesting finding in male and female control group
students was that although females demonstrated gains on all five variables and significant gains on the Social Welfare variable, males, on the other hand, regressed on all items except the competence item on which they registered no gain. This finding may indicate that males have more difficulty adopting to traditional school curriculum in those areas than do females.

The preparation of students for docility as seen by certain writers (Goodland and Klein, 1970; Martin, 1975) and the alienation from the reality of the community and adult world (Passom, 1975, pp. 587-590) has a particularly devastating effect upon males' perception of their ability to foresee, decide upon, and act on responsible decisions. Females, who have traditionally "fit" better into the passivity engendered by the educational system are not as discouraged by the traditional need of teachers to "do for" students (Silberman, 1970, p. 135; Elkund, 1974, p. 180) rather than to have students "do for" themselves.

Results of the analyses for decreases in absence for experimental and control students found decreases for both groups, although those of the experimental group were significant. It is not unusual for urban high school students to attend school irregularly (Levanto, 1975; Thomson and Stanard, 1975; Teachman, 1979, p. 203; Wilson, 1975; Steele, 1978, p. 86). Involvement in experiential learning experiences and the subse-
quent feelings of having to take responsibility for one's actions and for making change had a significant effect upon student attendance and, subsequently upon student learning. One cannot learn as well if one's attendance is irregular.

The decrease in student disciplinary problems found in the study may indicate that students feel more a part of and are less alienated from their schools when they are involved in experiential education programs. The coupling of student violence, vandalism, and high absenteeism has been noted by at least one writer (Steele, 1978, p. 86). The magnitude of school disciplinary problems has also been studied (Brown, 1973; La. St. Dept. of Ed., 1975; N.A.S.S.P., 1976; Patterson, 1977). Findings of the current study indicate that experiential learning programs may have a profound positive effect upon school problems with disorder.

In the area of psychological impact, the study found that students' positive attitudes about themselves and towards school as measured by the Janis Field Feelings of Inadequacy Scale increased significantly for the experimental groups. Although control group students as a whole also demonstrated a significant growth, further analysis revealed that the significance was due to gains in control females. Male gains were not significant. Significant overall gains reflect those found by Conrad (1979), who stressed the importance of a reflective seminar and the need for experience based programs to be dis-
similar from regular school experiences. Although ego strength and self esteem have been seen to be the key determinants for success in school and for active involvement and positive citizenship (Stockhaus, 1976) traditional school curricula have been seen to negatively affect these constructs (Cusick, 1973; Goodlad and Klein, 1970; Martin, 1975; Coleman, 1961; Jackson, 1968).

Results of increased self worth as seen in this study substantiated earlier findings (Bontempo, 1979); Kazanga, 1978; Sager, 1973; Kelly, 1973; Exam, 1978). Research evidence in this study indicated that the experiential program may have had a positive effect upon students' feelings of self worth. Practical Implications of Results

On the basis of these results, it can be argued that students involved in experiential education programs experience positive attitude and behavioral changes as a result of such programs. The results of this study have demonstrated that those positive changes are within the control of the school and the staff within that school.

Interviews determined that students were engaged in meaningful activities, working hand in hand with adults, in partnership situations. These joint activities helped students to develop a profound sense of their own importance as persons who have the skills necessary to take responsible actions, the willingness to take those actions, and the courage to carry
these actions to conclusion. As a result of their competence, efficacy, and performance, students perceived that they did, in fact, make important changes in the lives of others. They became vitally concerned with their own commitment to human values as they worked with people who needed them and who treated them as responsible human beings.

Although personal relationships with adults outside the family are often absent from the lives of young people, students who experienced service/learning activities were able to develop close personal relationships with adults of varying ages, life styles, and abilities. They learned socialization skills rarely found within the self contained structure of the high school. Students who gave voluntarily of their time and skills discovered that they did, indeed, have a responsibility for helping others to improve the quality of their lives. In addition to that responsibility, they saw that they had the power within themselves to effect positive change in others. They developed an equal partnership with adults and realized that good citizenship involved caring, responsibility, and sacrifice; the rewards of that sacrifice, however, were meaningful and important.

Large gains found in the study results also indicated that the careful planning and advisement which went into the program were critical to its success. Adults within the school had spent a great deal of time in developing plans with site spon-
sors and with students prior to the learning/service experiences. In addition, continuous monitoring was carried on during the program. During the experiences, reflective seminars in which students explored their successes and their problems with teachers and with other students served effectively as sounding boards and as support systems.

For the first time, in many instances, students reinforced their developing socialization skills with their peers and with teachers within the framework of seminars where teachers accepted them as equals.

Students frequently became teachers, for their own instructors learned about direct experiences from them. For example, students who were involved in a hospice program gained compassion and understanding of the dying which many teachers had not experienced. Watching a human being die, administering to his needs, and talking with him, as he explores his feelings about his own death leave a profound and permanent effect upon a student and upon those with whom the student reflects upon that experience.

Students who worked with the elderly and who discussed these experiences with others helped to bridge the gap which exists between youth and the aged. Fragmentation between the age groups disappeared and the elderly became accepted as a part of the continuum of young people's lives.

Findings of positive gains on the behavior variable were
influenced by students' desire to become involved in the community service program. Students were warned that behavior problems could cause them to be dropped from the program; control students who will be involved in spring semester experiences know that poor behavior may keep them from involvement. Strong community norms and community services area orientations, therefore, influenced the positive results of this variable with both control and experimental groups.

Findings of better attendance and behavior as a result of involvement in the experiential education or the expectation of such involvement in the future (on the part of control group students), however, have practical implications on the reduction of student violence and vandalism within the school setting. Students who cause disruption have frequently been found to have high incidences of absence; these students are often the ones who drop out of school, totally unprepared to occupy a meaningful societal role. They are also the ones who become a drain on society and on themselves, for they must become dependent upon public welfare. The significant decrease of absence found in experimental students and the significant decrease of behavior problems found in both groups should be further examined to determine if they are related to the reduction of violence and vandalism.

The finding that control group males registered diminished mean posttest scores on the Social and Personal Responsibility
Subscale while control group females registered small but positive gains points up the importance of experimental programs in the development of males' mature decision making ability in the area of taking responsibility for one's actions and then assuming the efficacy and the competence to carry those decisions out. The small but non significant male control gains on the Career Information Subscale and the Janis-Field Feelings of Inadequacy Subscale as opposed to significant female control group gains also underscore the importance of experiential education programs for male high school students.

The findings of overall effectiveness have important implications for the education of young people and for the continuation and expansion of experiential education programs in the secondary school.

As a result of the experiences of the experimental students and of their subsequent contact and reflection with other students and with school staff, an openness began to pervade the entire school used in this study. In many classes, students and teachers began to discuss the development and analysis of values and of decision making. Humanness began to enter the curriculum.

When teachers became students as well as teachers and when students became curriculum learners as well as leaders, both became coordinators to link the process of learning in the community to learning in the classroom. Emerging networks
with the community will bring additional resources into the classroom for the development of learning; these resources, properly utilized, will become further links to tie students to the larger society.

The findings of this study lend strong empirical support to John Dewey's stress upon the importance of the learner's individual experiences and upon his involvement in his own learning. When education is experience based, it becomes "a process of living and not a preparation for life" (Dewey in Cremin, 1959, p. 22). Learning is experience.

**Recommendation for Further Research**

The following areas are suggested for further research on the viability of experiential learning/service programs.

1. A comparative study of high school students who are involved in experiential education programs over a longer period of time than the nine weeks of the current study to see if results found in this study were caused by the intensive nature of short term experiences.

2. A follow up study of students involved in relatively short term experiences like the present one to see if positive changes in attitudes, attendance, and behavior persist over time.

3. A replication of this study comparing similar experiences for high school and junior high school youth.

4. An investigation of school vandalism incidents and
neighborhood crime reports in a school/community setting where an experiential education program involving large numbers of the school population exists.

5. A study of the impact of students' learning/service activities upon those whom they serve and upon their communities.

6. A study of the relationship between student academic achievement and involvement in experiential learning/service activities.

7. A study of the relationship of cognitive style and the ability to learn from experience.

8. A study of the most effective methods to guide reflective experiences and to determine the long term value of what is learned by such experiences.
Appendix A

Experiential Education Questionnaire

Questionnaire One

Instructions:

This questionnaire asks you to think of a job or career field that you might like to enter after completing your education and to answer some questions in relation to that career field or job. For the statements listed below please indicate on a scale of 1 (never) to 5 (frequently) how often you have had each experience during the past twelve months. Most students have had some but not all of these experiences. Therefore, if you have not had that experience mark the answer sheet as 1 for never. If you have had the experience--select 2 if you have done it only once, 3 if you did it several times during the year, 4 if you did it about once a month and 5 if you did it more frequently than once a month.

IN RELATION TO A JOB OR CAREER FIELD YOU MIGHT LIKE TO ENTER, HOW FREQUENTLY DURING THE PAST 12 MONTHS HAVE YOU:

<table>
<thead>
<tr>
<th>Experience</th>
<th>Never</th>
<th>Once</th>
<th>Several</th>
<th>Once a Month</th>
<th>More Than Once a Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Talked about the job or career with relatives or friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Talked about the job or career with persons employed in that career field.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Talked about the job or career with teachers or counselors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Read materials about the job or career.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Observed activities in the job or career.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Tried out activities related to the job or career.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Question</td>
<td>Never</td>
<td>Once</td>
<td>Several</td>
<td>Once a Month</td>
<td>More Than Once a Month</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------</td>
<td>------</td>
<td>---------</td>
<td>--------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>7. Worked in this job or career field.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Thought about racial, sex, or other biases that may exist in the job or career field.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Thought about the steps necessary to prepare for the job or career.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Learned the range of pay for the job or career.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Learned the level of schooling or type of training required to enter the job or career.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Thought about the relevance of your current school program to the job or career field.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Learned the employment demand for people in this job or career field.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Thought about the lifestyle you would have with this job or career field (for example, the amount of money, working conditions, kind of friends).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Thought about how well the job or career field matches your interests and abilities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Questionnaire Two

Instructions:

A. Look at the sample question below, but don't answer it until you have very carefully read the instructions below.

Almost	Sometimes
Always	True
True	For
For Me	Me

Some teenagers worry -BUT- Other teenagers don't seem to worry about school grades.

B. To answer these questions, there are two steps.

1) First, decide whether YOU are more like the teenagers on the left side who worry about school grades OR the teenagers on the right side who don't seem to worry about school grades. Don't mark anything down yet, but first decide which type of teenager is most like you and go to that side.

2) Second, now that you have decided which side is most like you, decide whether that is almost always true for you or sometimes true for you. If it's only sometimes true, then put an X on the line under sometimes true, if it's almost always true for you, then put an X on the line under almost always true.

C. Now continue to do the numbers below. For each number, you only check one line.

Almost	Sometimes
Always	True
True	For
For Me	Me

Some teenagers feel bad when they let people down -BUT- it bother them that much.

1). ____ ____

Other teenagers don't let who depend on them.

____ ____ (21)
<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Other Teenagers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2)</td>
<td>Some teenagers think it's the responsibility of the community to take care of people who can't take care of themselves.</td>
<td><strong>-BUT-</strong> Other teenagers think that everyone should just take care of themselves.</td>
</tr>
<tr>
<td>3)</td>
<td>Some teenagers are interested in doing something about school problems.</td>
<td><strong>-BUT-</strong> Other teenagers don't really care to get involved in school problems.</td>
</tr>
<tr>
<td>4)</td>
<td>Some teenagers let others do most of the work in a group.</td>
<td><strong>-BUT-</strong> Other teenagers help in a group if they can.</td>
</tr>
<tr>
<td>5)</td>
<td>Some teenagers seem to find time to work on other people's problem.</td>
<td><strong>-BUT-</strong> Other teenagers find taking care of their own problems more than enough to do,</td>
</tr>
<tr>
<td>6)</td>
<td>Some teenagers are interested in what other students in class have to say.</td>
<td><strong>-BUT-</strong> Other teenagers don't care that much about what other students say.</td>
</tr>
<tr>
<td>7)</td>
<td>Some teenagers are interested in doing something about problems in the community.</td>
<td><strong>-BUT-</strong> Other teenagers are not that interested in working on problems in the community.</td>
</tr>
<tr>
<td>8)</td>
<td>Some teenagers carefully prepare for community and school assignments.</td>
<td><strong>-BUT-</strong> Other teenagers usually don't prepare that much.</td>
</tr>
<tr>
<td>9)</td>
<td>Some teenagers would rather not present ideas in a group discussion.</td>
<td><strong>-BUT-</strong> Other teenagers feel comfortable in presenting ideas in a group discussion.</td>
</tr>
<tr>
<td>10)</td>
<td>Some teenagers let others know when they can't keep an appointment.</td>
<td><strong>-BUT-</strong> Other teenagers don't call ahead when they can't make it.</td>
</tr>
</tbody>
</table>
Some teenagers think people should only help people they know—like close friends and relatives. Other teenagers think people should help people in general—whether they know them personally or not.

For some teenagers, it seems too difficult to keep commitments. Other teenagers somehow manage to keep commitments.

Some teenagers' ideas are almost always listened to in a group. Other teenagers have a hard time getting the group to pay attention to their suggestions.

Some teenagers don't think they have much say about what happens to them. Other teenagers think they can pretty much control what will happen to their lives.

Some teenagers don't think it makes much sense to help others unless you get paid for it. Other teenagers think you should help others even if you don't get paid for it.

Some teenagers are good at helping people. Other teenagers don't see helping others as one of strong points.

Some teenagers feel obligated to carry out tasks assigned to them by the group. Other teenagers don't feel that bound by group decisions.

Some teenagers think when good things happen it's because of something they did. For others, there seems to be no reasons—it's just luck when things go well.
19). Some teenagers prefer to have someone clearly lay out their assignments. Other teenagers prefer to make up their own lists of things to do.

20). Some teenagers aren't that worried about finishing jobs they promised they would do. Other teenagers would feel really bad about it.

21). Some teenagers think they are able to help solve problems in the community. Other teenagers don't think they can do anything about them because a few powerful people decide everything.
Questionnaire Three

Instructions:
Read the sentences below and mark an X on the line that best describes you.

<table>
<thead>
<tr>
<th>very often</th>
<th>fairly often</th>
<th>sometimes</th>
<th>once in a great while</th>
<th>practically never</th>
</tr>
</thead>
</table>

1. How often do you worry whether other people like to be with you? 

2. How often do you feel sure of yourself among strangers?

3. How often do you feel confident that someday people you know will look up to you and respect you?

4. How often do you feel self-conscious?

5. How often do you feel that you have handled yourself well at a party?

6. How often are you comfortable when starting a conversation with people whom you don't know?

7. How often are you troubled with shyness?

8. When speak in a class discussion, how often do you feel sure of yourself?

9. When you have to talk in front of a class or a group of people of your own age, how often are you pleased with your performance?
10. How often do you worry about how well you get along with other people?
Northwestern High School
CABLES
Program Review
November 21, 1980

I. ACCOMPLISHMENTS

A. Site Development

1. Elementary--Park Heights, Grove Park, Medfield, Arlington, Pimlico, Martin Luther King, Edgecombe, Calloway, Monroe Saunders

2. Junior High--Pimlico, Greenspring, Fallstaff, Roland Park, Robert Poole
   Northwestern, Chimes, Children's Guild

3. Hospital--Mt. Wilson, Park West Health Center, Provident, Sinai

4. Geriatric Centers--Levindale, Granada, Northwest Senior Center

Appendix C

NORTHWESTERN HIGH SCHOOL
CABLES OFFICE - 104
6900 PARK HEIGHTS AVENUE
BALTIMORE, MARYLAND 21215

Cables Student Assignment Sheet

Name: ___________________________ Class: _____

Your services have been requested by:
Company/Agency: ___________________________ Phone: _____
Address: _________________________________
Contact Person: ____________________________

Your Initial Starting Date is: ____________________________
Day of the week: ____________________________
Arrival Time: ____________ Dismissal Time: ____________
Initial Meeting Place: ____________________________
Lunch: ____________________________

Job Description (DUTIES)

________________________________________________________________________

INFORMATION:

1. If you are unable to keep scheduled appointments, please call: the contact person at the site and also call the CABLES office at 396-0073.
2. You are responsible for arranging transportation prior to starting date. See Mr. Knott/Johnson to make arrangements.
3. Attendance is an important part of the program. Be sure to call if you must miss a session. (See #1) Have the site sponsor sign your attendance card. Show this card to all teachers the next day you are in school.
4. Participants will complete written evaluations and attend seminars to relate their experiences to their classroom learning.
5. Arrange with your teachers to make up any missed work.
6. As a volunteer service/learner, you are proudly representing yourself, your school, and your community.

Coordinator: ___________________________ Student's Signature _______

Date: ____________________________
NORTHWESTERN HIGH SCHOOL
CABLES OFFICE - 104
6900 Park Heights Avenue
Baltimore, Maryland 21215
396-0073

PARENT RELEASE FORM

I, the undersigned, give permission for my son/daughter of class , to participate in the Northwestern High School's Community Based Learning and Service Project. (CABLES). I agree to hold harmless and free from blame and liability Northwestern High School or the Employer/Supervisor with whom he/she is placed.

SITE: ___________________ Beginning Date: _________________

(Parent's Signature)

(Date)

TEACHER NOTIFICATION FORM

I understand that of class , will be involved in the CABLES program. I understand that the student is responsible to make up missed assignments or prepare alternative assignments as arranged with me. I understand that the student will inform me of the dates that will be missed through the use of the attendance card.

SUBJECT: _____________________ TEACHER: _____________________

_________________________ ____________________________

_________________________ ____________________________

_________________________ ____________________________
... Service/Learning in Baltimore

Site Sponsor Handbook

CABLES
Northwestern High School
6000 Park Heights Ave
Baltimore, Maryland 21215
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th></th>
</tr>
</thead>
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<td>Introduction to CABLES at Northwestern</td>
<td>Page 2</td>
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<td>CABLES Fact Sheet</td>
<td>Page 3</td>
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<td>Page 7</td>
</tr>
<tr>
<td>Appendix C Sample: Site Attendance</td>
<td>Page 8</td>
</tr>
</tbody>
</table>
This handbook is designed to provide essential information for the CABLES site sponsor. Please keep the booklet as a ready reference. The CABLES office is open from 9:30 A.M. to 4:30 P.M. on weekdays. The CABLES phone is 396-0073. If no answer, dial the main office at 396-0646.

Northwestern CABLES Staff

James Lamar Principal
Cecilia Chesno Assistant Principal
Robert Johnson, CABLES Coordinator Educational Specialist
Jack Knott, CABLES Coordinator Educational Specialist

Mailing Address

CABLES
Northwestern High School
6200 Park Heights Avenue
Baltimore, Maryland 21215
Introduction to CABLES

CABLES is the name of the Community-Based Learning and Service Project at Northwestern High School. In our CABLES project we will be involving students from Northwestern in a wide spectrum of activities including, but not limited to, the fields of education, business, industry, health, and community activities. One of the main goals of the project is to provide the community with student volunteers who will, through their service, become active, contributing citizens as they "learn by doing." The CABLES project will ultimately serve to bridge the gap between classroom and the world of work for the student. Students will be exposed to a variety of experiences which will, it is hoped, provide alternatives for their Career Plan. Another important aspect of CABLES is that it will encourage community members, who have considerable expertise in a variety of fields, to participate directly in the educational process.

CABLES has had a good beginning in the initial stages of operation. This is due to the tremendous response of the community agencies and businesses who have served as site sponsors. We solicit your involvement in CABLES and know that you will find your participation a rewarding experience.
1. CABLES is a program of the Baltimore City Public Schools that places Northwestern High School students in the community to voluntarily provide service. While providing service, the students are engaging in experiential learning.

2. The CABLES Project is a curriculum-based service/learning project. Student participants in the program are sponsored by a classroom teacher. Students complete an "end project" relating to the site with the subject area teacher. At the site, students have a sponsor/supervisor.

3. Participation in CABLES is strictly voluntary.

4. Over 600 students will have participated in the CABLES project between September, 1980 and June, 1981. The projected number of participants by June, 1982 is over 1000 students - at least 50% of the student body at Northwestern!

5. Students may participate in CABLES one day per week for a total of 5-10 days per semester. Students will be available for the entire day. Students will be responsible for making up work missed as required by the teacher.

6. Students will be given the opportunity to participate in short term projects, which have a duration of less than 5 days. Included would be Special Olympics and health fairs.

7. Sites should look at their programs to determine those activities that may not be possible with their current manpower. Student volunteers may provide a solution for implementing new programs and activities at the sites.

8. Sites can be arranged in the fields of: medicine, law, senior citizen care, health care, historical preservation, ecology, child care, small businesses, public agencies, education, and in any other field where service/learning can take place.

9. CABLES offers the voluntary service of students from Northwestern High School to the community-at-large. It offers the student opportunities for career and service experiences.

To request the services of students:
1. Call the CABLES office at 396-0073.
2. Complete the Job Description forms. (See Appendix A)
3. Send the Job Description form to the CABLES office.
4. The CABLES office will send you additional Site Sponsor booklets for your staff, if requested.

Scheduled School Holidays 1980-81

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov 4</td>
<td>Election Day</td>
</tr>
<tr>
<td>Nov 27-28</td>
<td>Thanksgiving</td>
</tr>
<tr>
<td>Dec 24-Jan 2</td>
<td>Winter Holiday</td>
</tr>
<tr>
<td>Jan 15</td>
<td>Dr. M.L. King's Birthday</td>
</tr>
<tr>
<td>Jan 30</td>
<td>Professional Activities</td>
</tr>
<tr>
<td>Nov 27-28</td>
<td>Thanksgiving</td>
</tr>
<tr>
<td>Dec 24-Jan 2</td>
<td>Winter Holiday</td>
</tr>
<tr>
<td>Jan 15</td>
<td>Dr. M.L. King's Birthday</td>
</tr>
<tr>
<td>Jan 30</td>
<td>Professional Activities</td>
</tr>
</tbody>
</table>

Feb 16-20 Mid-Winter Holiday
Apr 17-20 Spring Holiday
May 29 Memorial Day
June 19 Last Day for Students
The Community-Based Learning and Service Project (CABLES) is designed as a learning experience. This experience results from the student acting as a participant, observer, and advocate, and hopefully, a source of productivity and service for you. Your role in helping the students achieve the overall goals of CABLES is critical. It is our goal that your participation in the CABLES Project will prove to be mutually rewarding.

To meet these goals, your role as a resource person should include:

1. an orientation to your facilities for the student. Include an explanation of your organization, its goals, how it fits into the total community, and the functions of the staff.

2. a sign-in book or time card for the student. Also signing the Student Attendance Card that the student will bring to the site each time.

3. Completing a Student Assessment Form on each student at the end of the site experience. Request copies from the coordinators.

4. Designating one person to supervise the student at your site. This person should be responsible for attendance and the degree of student involvement. A second person should be designated in case the supervisor is not in.

5. Providing specific directions so that the student feels competent to do the assigned task. Answer questions about the operations of the organization.

6. Discussing career options at your site. Explain the type of education and skills needed to perform various jobs.

7. Contacting the CABLES Office before problems arise. The coordinators are available to counsel students about attendance, attitudes, etc. and appreciate feedback from the site sponsors during the time a student is at the site.
General Information for CABLES Site Sponsors

Attendance: Students who are absent are obligated to call you and the school. Each student has been informed of this policy. It would be helpful if you stress this to the students. It is important that students become aware of the time constraints when being employed. We are hoping to engender RESPONSIBILITY in all CABLES Students. If possible, please call the CABLES Office if a student is absent and does not notify you.

SAFETY: Site Sponsors should be aware of the restrictions of child labor laws that apply to minors being present in their establishments. Though CABLES students are not paid employees, they are still governed by the rules and regulations of federal and state labor laws. It is particularly important that persons under eighteen years of age may not use power machinery, work on conveyor belts, or be near dangerous chemicals. Any student injury or illness should be immediately reported to the CABLES Office at Northwestern High School.

Credits: CABLES credit is awarded for time spent at a placement. It is important that you keep the attendance information up-to-date. Your sign-in book and the students’ Attendance Card are the cross-references for attendance. Students will most likely be assigned an "end project" by the sponsoring teacher. This will either be oral or written. Please cooperate for interviews, photos, etc.

One method of having the student be accountable for the experience is to sign a contract with the sponsoring teacher to develop certain goals and skills. The CABLES Coordinators and sponsoring teachers will visit the sites to monitor the students.

Evaluation: Each semester, both students and site sponsors will be asked to complete an evaluation form (mentioned in #4 in Roles of Site Sponsors.)

Handling Money: When students are permitted access to cash, protection for you and the student is a necessity. A system must be in effect that permits balancing or accounting for all funds before students leave for the day.

Lunch: A 30-45 minute lunch break should be provided. Students should adjust their lunch time to meet your work schedule. Students are expected to provide their own lunches unless the site provides such for them.

Emergency Closing: CABLES activities will be cancelled anytime the high school is closed due to weather or other emergency conditions. Radio stations announce closings of Baltimore City Public Schools. In addition, certain CABLES activities may be cancelled due to inclement weather even though the high school remains open. If this occurs, you will be notified. Please call the school if questions arise on this matter.

STUDENTS ARE NOT PERMITTED TO RECEIVE PAY FOR THEIR CABLES ACTIVITY SINCE THEY ARE WORKING FOR SCHOOL CREDIT.
Job Site Description

I. Company/Agency ____________________________________________________________

Address _________________________________________________________________

Phone _________________________________________________________________

Contact Person ___________________________ Position ________________________

II. List machinery, apparatus, and/or equipment to be used at the site placement.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

III. List subject skills related to the job service

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

IV. Duties of the Students:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

V. Accommodations:

Number of students to be used per day __________________ per week ____________

Length of the work day at the company/agency ________________________________

Arrival Time ___________________ Dismissal Time _____________________________

Lunch will ______ will not ______ be provided. (circle one)

Signature Company/Agency Supervisor _______________________________________

Date ___________________________
To the Site Sponsor: Please complete this form at the end of the student's site experience. This form will be used to monitor the student's attendance and on-site performance.

Student: ____________________________ Date: ____________

Days absent: __________ Days present __________

Part I. Circle the appropriate response:

1 = never  2 = seldom  3 = usually  4 = always

1. Did the student dress appropriately for the site?
   1 2 3 4

2. Was the student punctual?
   1 2 3 4

3. Was the student able to work well with others?
   1 2 3 4

4. Did the student complete assigned task on time?
   1 2 3 4

5. Did the student show a desire to learn new things?
   1 2 3 4

6. Was the student courteous?
   1 2 3 4

Comments: ____________________________________________

Part II

1. Has the student developed the appropriate skills necessary to perform the assigned task? YES ________ NO ________

   If no, why not? ____________________________________________

2. Are there additional comments you would like to make about this student?

   ________________________________________________________

Thank you for taking the time to complete this survey.

***THANK YOU FOR YOUR PARTICIPATION IN THE CABLES PROGRAM AT NORTHWESTERN***

Please send to: CABLES Office - Northwestern High School - 6900 Park Hts. Ave.
Baltimore, Maryland 21215.
1. Site sponsors will sign this card each day a student is present.

2. The student will be responsible to show the card to all teachers on the next day of attendance.
### RECORD REVIEW FORM

<table>
<thead>
<tr>
<th>Name</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homeroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birthdate</td>
<td></td>
<td>Number of Hours of Community/Service Learning Activities</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Number of Days Absent**

- **4/19/80 to 6/20/80**: 
- **9/8/80 to 11/20/80**: 
- **Total**: 

**Number of Disciplinary Referrals**

- **4/19/80 to 6/20/80**: 
- **9/8/80 to 11/20/80**: 
- **Total**: 

COMMUNITY-BASED LEARNING AND SERVICE PROGRAM


CABLES

Northwestern High School - #401
Baltimore, Maryland 21215

Jack Knott
Robert Johnson
Educational Specialists
Rationale:

In its policy statement, "The Mission of Schooling", the Maryland State Department of Education states: "We reassert that schooling is the responsibility of self, family, neighborhood, church, community, and the many institutions which impact on our lives. It is not the responsibility of the school alone. Neither competency nor the personal qualities to which the schooling process contributes can result from schools alone. They require the support and involvement of many others. But the schools can and should provide leadership to others."

In conjunction with this policy, the Baltimore City Public Schools has established the goal of providing learning experiences in the basic skills areas of reading, writing, and mathematics in order to prepare students to live effectively in today's society.

Benefits of the Community-Based Learning and Service Program (CABLES) at Northwestern include: providing the opportunity for students and community to combine efforts in achieving the goal of educating students; exposing large numbers of comprehensive senior high school students to the world of service and work which will enhance their in-school learning; and providing many man-hours of voluntary service to the community-at-large.

Background

Northwestern's school population consists of approximately 2,000 students ranging from lower to middle class socio-economic status. The
school's racial mixture is approximately 95 per cent black students and 5 per cent white students. The surrounding neighborhood is comprised mainly of white, middle-class Jewish families. Previous school-community involvement programs such as C.A.S.T. and C.P.S.S. have engendered good inter-racial experiences between the school and the neighborhood.

Current issues, concerns, and problems relative to the CABLES program at Northwestern include: budget matters, scheduling of students, teacher involvement, student orientation, site developments, proficiency tests and student involvement, academic credits, in-service workshops, curriculum tie-backs, and transportation. We have progressed very far in solving some of these concerns and continue to investigate innovative methods to ensure the smooth operation of this large-scale program.

Goals

A. To provide a sequence of community-based learning and service experiences for students at Northwestern High School.

B. To provide curricular options that allow students to earn academic credit through out-of-school experiences.

C. To provide a mechanism through which student interest can be identified.

D. To develop administrative policies and practices which facilitates the implementation of CABLES.

E. To encourage parents and community persons to share the learning/service experience with school staff and students.

Objectives

1.1 Identify the students to be involved in CABLES.

1.2 Provide a sequence of experiences.

1.3 Determine the duration of the experiences.

2.1 Encourage teachers to develop curricular activities and/or sites.

2.2 Explore a variety of methods for CABLES Coordinators and teachers to develop activities together.
Objectives (Continued)

2.3 Encourage students to develop, in cooperation with teachers and CABLES Coordinators, curricular activities and/or sites.

2.4 Provide for an administrative understanding of CABLES.

3.1 Identify career, group, or personal interests of students.

3.2 Provide for involvement of counselors with CABLES.

3.3 Provide for involvement of the Pupil Services Team at Northwestern.

4.1 Initiate the forms necessary for implementation of the program.

4.2 Define the roles and responsibilities.

4.3 Develop a transportation system to get students to and from sites.

4.4 Provide a schedule modification if possible for blocking students.

4.5 Develop an in-service program for faculty and staff.

5.1 Establish a CABLES Advisory Council.

5.2 Participate in the CABLES Fair Day.

5.3 Encourage parents to give the necessary written permission for student participation.

5.4 Community Sponsors (site sponsors) will share in on-site supervision.

5.5 Parents and community persons will participate in in-service activities.

OBJECTIVE

1.1 Identify the students to be involved in CABLES.

STRATEGIES

June, 1981

1. Provide CABLES experience for 600 students.

2. Target in on population to center around grades 10-12.

3. Provide for sex equity (balance of boys and girls as much as possible).
STRATEGIES (1.1 Continued)

June, 1981

4. Provide for racial equity.

5. Provide the experience for the above named students relative to the following criteria:

   a. Attendance: Attendance is not be be considered a criteria for preventing a student's participation.

   b. Site Appropriateness: The site placement should be commensurate with the students' skills, abilities, academic achievement, and interests.

6. Provide CABLES experiences for a minimum of 50 per cent of the student body (approximately 1,000 students).

OBJECTIVE

1.2 Provide a sequence of experiences.

STRATEGIES

October, 1980

1. Provide ninth graders with introduction and orientation.

   a. Class meeting.

   b. Other community programs that deal with ninth graders (i.e CAST, CPSS, etc.)

Ongoing

2. Provide tenth, eleventh, and twelfth graders with experiences five to eighteen times at a site per semester.

3. Short term and special projects will also be provided.

   a. Health Fairs, hospital visits by groups of entertainers, etc.

   b. Special Olympics and other one or two day activities.
OBJECTIVE
1.3 Determine the duration of the experience.

STRATEGIES

Ongoing

1. Determined by the nature of the site and the student's schedule.
2. Consult and notify teachers of the duration and scheduling.

OBJECTIVE
2.1 Encourage teachers to develop curricular activities and/or sites.

STRATEGIES

Ongoing

1. Examine proficiency tests and make connection between site and needed skills.
2. Inservice for Site Development.

September, 1980

3. Inservice for Central and/or Regional Curriculum Specialists.

Ongoing

4. Work through Department Heads to develop curricular tie-backs and relationships.
5. Coordinators assist individuals or small groups.
6. Teachers, in cooperation with the student, will develop "end projects" for completion by students. End projects may be developed by individual teachers, a group of teachers, or chosen from a prepared list of suggested projects by the Coordinators.

OBJECTIVE
2.2 CABLES Coordinators and teachers develop activities together at workshops and small group meetings.

STRATEGIES

September, 1980

1. Develop a series of curriculum options for teachers and student use (contracts, peer teachers, projects).

October, 1980

2. List suggested activities to be used routinely for each site experience: thank-you letters, daily logs, anecdotal logs, etc.
OBJECTIVE
2.3 Encourage students to develop, in cooperation with teachers and Coordinators, activities and/or sites.

STRATEGIES
Ongoing
1. Provide students a chance to bring in their own ideas. Students should involve teachers and Coordinators in this process.
2. Explore students' creativity by classroom participation and evaluation.

OBJECTIVE
2.4 Provide for an administrative understanding of CABLES.

STRATEGIES
September, 1980
1. Identify purpose and goal to each class administrator.
2. Provide Inservice for Administrative Input and Ideas.

October, 1980
3. Administrators to become actively involved in supporting CABLES projects.

OBJECTIVE
3.1 Identify career, group or personal interest.

STRATEGIES
June, 1980 (old)
1. Administer Student Survey to all students.

October, 1980 (new)
2. Counseling with CABLES Coordinators.

Ongoing
3. Develop and plan a CABLES FAIR to introduce students to community and career opportunities.

OBJECTIVE
3.2 Provide for involvement of counselors with CABLES.

STRATEGIES
September, 1980
1. Meet with counselors as a group to develop plan of their involvement.

Ongoing
2. Meet each one on an individual basis as needed.

December, 1980
3. Assist in identifying opportunities for peer counseling.
OBJECTIVE
3.3 Provide for involvement of Pupil Services Team at Northwestern.

STRATEGIES
September, 1980
1. Meet with Social Worker and Attendance Monitor.

October, 1980
2. Assist in site development of students with Pupil Services Team.

OBJECTIVE
4.1 Initiate the forms necessary for implementation of the program.

STRATEGIES
September, 1980
All forms completed.

OBJECTIVE
4.2 Define the roles and responsibilities of staff and administrators.

STRATEGIES
1. Assistant Superintendent D.I.C.M. will coordinate efforts of Baltimore City Public Schools; develop procedures; monitor and assist in the evaluation of the project.

2. Assistant Superintendent D.E.S. will monitor the administrative efforts through the Special Projects office.

3. Principal Northwestern High School or his designee will monitor the program within the school; will make changes necessary to facilitate implementation; assist in the evaluation of the project; will act as administrative liaison between administration, staff, and specialists.

4. Faculty Liaison will represent and report to the faculty the results of committee efforts; will attend all committee planning meetings; will relate concerns and suggest educational specialists. Rotation members will be selected to join the planning sessions.
OBJECTIVE

4.3 Develop transportation system to get students to and from sites.

STRATEGIES

October, 1980
1. The MTA will be the major source of movement.

Ongoing
2. Bus tickets will be given to students as necessary to get them to and from destination.

Ongoing
3. Bus routes and time schedules will be provided by the secretary.

OBJECTIVE

4.4 Provide a schedule modification.

STRATEGIES

September, 1980
1. Refer to Appendix to read a statement from the administrators.

OBJECTIVE

4.5 Develop an Inservice program for faculty and staff.

STRATEGIES

July, 1980
1. Teachers will come in and brainstorm activities for the Fall. Teachers will be paid to develop curriculum projects and curriculum tie-back elements for identified sites. They will help develop pre and post knowledge tests relative to a sampling of sites.

September, 1980
2. If granted, a release time day will be spent on the CABLES Program.

October, 1980
3. CABLES Coordinators will utilize the time to enlighten the faculty of the program operation.

OBJECTIVE

5.1 Identify roles of CABLES Advisory Council.

STRATEGIES

October, 1980
1. Committee will be comprised of community members, school staff, CABLES staff and students.
STRATEGIES (5.1 Continued)

October, 1980

2. Gather community-school input for site development, existing problems and potential problems.

3. Committee is designed to identify specific objectives of the community for CABLES.

4. Committee is to aid in identifying service needs of the community.

5. Provide a format for student/community rapport.

OBJECTIVE

5.2 Participate in the CABLES FAIR DAY.

STRATEGIES

May, 1981

1. CABLES Council will organize an Open House.

2. Site sponsors, community and business people will have displays of what they are all about.

3. Teachers and students will interact with above named people to explore opportunities.

OBJECTIVE

5.3 Encourage parents to give written permission for student participation.

STRATEGIES

September, 1980

1. Send letters home explaining program.

2. Meet with parents at first P.T.O. meeting to answer any questions and deal with reservations.

October, 1980

3. Get youngsters to have parents sign permission and release forms.
OBJECTIVE
5.4 Community sponsors "Site Sponsors" will share in on-site supervision.

STRATEGIES
October, 1980
1. Each site will have one person to whom our students are responsible to report.

Ongoing
2. Site Sponsor and CABLES Coordinators will jointly handle attendance, punctuality and neatness.

Ongoing
3. Site Sponsor will make assignments and monitor as suitable.

OBJECTIVE
5.5 Parents and community persons will participate in Inservice activities.

STRATEGIES
October, 1980
1. Parents and community persons will be used as speakers and resources.

Ongoing
2. Each Inservice participant from said groups.

Ongoing
3. Participants will disseminate materials and information to the rest of the community.

The educational specialists will:

a. develop placement sites by contacting business organizations, government agencies, cultural organizations, churches, synagogues, schools, and community organizations who will provide service/learning opportunities for Northwestern High School students.

b. establish roles and responsibilities for site sponsors.

c. delineate the duties and responsibilities of the students at site placements.
The educational specialist will: (Continued)

d. articulate the CBLS Project to parents, students, and community through the use of printed materials and/or group meetings.

e. distinguish between placements that are course-related and those course-related to assess determining teacher/student responsibilities.

f. determine the number of credits or fraction thereof that will be awarded for any site activity that would exceed the time of the normal school day.

g. supervise the return of students from site placements to the regular school program by establishing accountability procedures (e.g., group discussions with counselors, a written evaluation) that will allow students to articulate their reactions to the service/learning experience(s) and to reflect on their personal growth and development.

h. maintain a master log of all site placements and student activities.

i. establish and monitor transportation procedures for students going to and returning from sites.

j. articulate the CBLS Project to the Northwestern staff and other appropriate staff of the Baltimore City Public Schools.

k. introduce the CBLS Project into curriculum areas and take the responsibility for identification and scheduling of students and the correlation of placements with one or more subject areas.

l. develop strategies to ensure that each student meets classroom responsibilities and articulate site experiences with specific subject area teachers.

m. maintain a daily log of personal activities in order to provide an overview of strategies used in the development of the CBLS project.

n. submit a written report of activities the second and fourth Friday of each month.
The CABLES Secretary will:

a. keep and maintain accurate records of all forms necessary for program operation.
b. will handle all correspondence as necessary.
c. all other clerical duties as assigned by the coordinators.

The Assistant Superintendent DICM:

Liaison for Assistant Superintendent DICM will act as pragmatic person to the school.

The Assistant Superintendent D.E.S.

Liaison for Assistant Superintendent D.E.S. will act as project liaison for technical assistance and advice.

Ms Janice Earle, Education Specialist M.S.D.E. will:

a. act as adjunct staff member to NWHS one day a week.
b. act as advisory person from M.S.D.E.
c. assist in implementing the details of the program.
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CURRICULUM VITAE

Name: Kathleen Parks Luchs

Permanent address: 5709 Cross Country Boulevard
Baltimore, Maryland 21209

Degree and date to be conferred: Ph.D., 1981.

Date of birth: March 3, 1940.

Place of Birth: New Castle, Pennsylvania

Secondary education: New Castle High School

Collegiate institutions attended Dates Degree Date of Degree
Slippery Rock State College 1958-59 None
1960-62
Towson State University 1968-70 B.S. 1970
Morgan State University 1970-73 M.S. 1973
University of Maryland 1974-81 Ph.D. 1981

Major: Educational Administration

Professional Positions Held: Regional Superintendent,
Baltimore City Schools, 1980-81

Principal, Northwestern High School,
Baltimore, Maryland, 1977-80.

Assistant Principal,
Cherry Hill Junior High School,
Baltimore, Maryland, 1975-77.

Educational Specialist,
Baltimore City Public Schools, 1975

Department Head of English,
Chinquapin Middle School,
Baltimore, Maryland, 1974

Reading Specialist and
Teacher of English, Eastern
High School, Baltimore,
Maryland, 1970-74.