DOCUMENT RESUME

ED 133 000 JC 770 038

AUTHOR Roueche, John E.; Mink, Oscar G.
TITLE Impact of Instruction and Counseling on High Risk Youth. Final Report.
INSTITUTION Texas Univ., Austin. Dept. of Educational Administration.
SPONS AGENCY National Inst. of Mental Health (DHEW), Rockville, Md.
PUB DATE 30 Sep 76
GRANT RO1MH22590
NOTE 266p.

EDRS PRICE MF-$0.83 HC-$14.05 Plus Postage.
DESCRIPTORS *Anxiety; Community Colleges; Comparative Analysis; Conventional Instruction; *Counseling Effectiveness; Counseling Theories; Developmental Programs; Educational Research; *Individualized Instruction; *Junior Colleges; Junior College Students; *Locus of Control; Minority Groups; Sex Differences; Student Characteristics
IDENTIFIERS *Nontraditional Students

ABSTRACT

A study was conducted to compare the effectiveness of nontraditional and traditional counseling and instructional methods in meeting the socio-emotional and academic needs of nontraditional ("high risk") community college students. Individualized learner-oriented mastery instruction with emphasis on audiotutorial methods and a composite of counseling methods referred to as a "counseling for internality" strategy were selected as the treatment methods. Subjects were students enrolled in developmental studies programs at ten community colleges; colleges were assigned to one of four cells in the study design. Subjects were pre-tested with a variety of instruments to obtain measures of anxiety and locus of control, and subsequent measures were taken over a three-semester period. Data analyses indicated that traditional counseling and instruction initially produced greater increases in internality and decreases in anxiety but after two semesters fostered a movement toward externality and increases in anxiety, while the nontraditional methods were more effective over the longer period of time. Additionally, the most positive changes occurred in schools where the most humanistic atmospheres prevailed. Data are analyzed by sex and ethnic group and are presented in extensive tables. A review of the literature and study-related materials are included. (JDS)

F I N A L R E P O R T

"IMPACT OF INSTRUCTION AND COUNSELING ON HIGH RISK YOUTH"

THE NATIONAL INSTITUTE OF MENTAL HEALTH

GRANT NUMBER RO1MH22590

J.E. ROUECHE, PRINCIPAL INVESTIGATOR

O.G. MINK, PROJECT DIRECTOR

COMMUNITY COLLEGE LEADERSHIP PROGRAM

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

THE UNIVERSITY OF TEXAS AT AUSTIN

AUSTIN, TEXAS 78712

Period of the Study: May 1, 1973 through June 30, 1976

Dated: September 30, 1976

FINAL REPORT

"Impact of Instruction and Counseling on High Risk Youth"

The National Institute of Mental Health
Grant Period May, 1973 through June, 1976
#ROIMH22590

Project Personnel

Principal Investigator:	John E. Roueche
Project Director:	Oscar G. Mink
Research Associates:	Catherine A. Christner (July, 1973-July, 1976)
	Anita Rosario (July, 1973-January, 1976)
	Gordon W. Watts (July, 1973-July, 1975)
	Milton G. Spann (July, 1974-April, 1976)
	Lois Dixon (October, 1975-March, 1976)
Administration:	Pam Anderson (first year)
	Lynette Krienke (second year)
	Ann Linquist (third year)

Table of Contents

List of Tables

List of Figures

List of Charts

SECTION I

INTRODUCTION

Introduction

The education system in our society is under attack. It is accustomed to attack by professional within education's own ranks (e.g., Gardner, 1967; Glasser, 1969; Goodlad, 1973; Herrscher, 1973), but recently it is being publicly indicted at the layman's level as well (Sheils, 1975). Students are not learning, are disenchanted with school, drop out in alarming numbers, tune out in alarming ways, such as drug abuse, vandalism of school property, assault on school personnel, and present other types of discipline problems. So the charges go.

Various explanations have been offered. This project examines one postulate--innovative counseling and instruction are more effective in educating nontraditional students than traditional education methods. The assumption is that current practices are not effective with nontraditional students. Our changing national values regarding disprivileged youth have opened the doors of community colleges to a population of youths who historically have not been included in the education system. These are the youths who have been labeled disadvantaged by socioeconomic standards. Whatever else they may or may not be, these students must be considered nontraditional by previous school population norms. Therefore, it should not be expected that traditional teaching methods used with the traditional student population should also succeed with this new population of nontraditional students. We are suggesting that part of the problem with the school system is failure to tailor education methods and philosophies to specific student populations.

In order to develop specific programs for a specific target group, it is important to know the characteristics of that population. Nontraditional students come from low income families and typically are members of various minority groups. They are characterized by feelings of powerlessness, worthlessness, and alienation. Typically, they manifest maladaptive behaviors including delinquency, hostility, unrealistic levels of aspiration, lack of problem-solving skills and lack of experience. They have "limited ego strength, uncertain personal identities and weak internal control over their behavior" (Ehrle, 1968). As students, they are considered high risk at both the high school and college level, as few remain in community college beyond one semester (Roueche, 1968). They read far below the 10th grade level and have poor verbal and communication skills. In summary, the nontraditional student is socially, emotionally and intellectually handicapped. These characteristics must be considered in planning an education program for this population.

The purpose of this study was to design and evaluate a program to meet the needs of these nontraditional students. It was decided to conduct the study at the community college level as these schools now enroll a majority of students from nontraditional backgrounds. Almost all public community colleges practice open admissions. Also, 80% of these colleges have instituted special programs (called remedial, developmental, basic or guided studies) for students who are ill-prepared for college work, which suggests that they offer the flexibility necessary for an experimental program. However, while these schools are open to new techniques, the

special programs so far tried have not been totally satisfactory in reducing the rate of attrition (Roueche, 1968). Therefore, the community college was considered an appropriate setting to develop a program designed specifically for nontraditional students. These schools as a group are available, concerned, innovative and open to outside help in improving their special programs for nontraditional students.

The program had to be designed for socio-emotional as well as academic development. Therefore, both counseling and instructional methods were to be considered. The instructional approach to be examined was a system of individualized learner-oriented instruction designed for mastery. This system emphasizes careful behavior sequencing to ensure both student success and active involvement in learning. These features were considered important in order to minimize the psychological damage of repeated failure and to reduce alienation. Furthermore, teaching strategies were to be employed which required minimal verbal and communication skills, a weakness in this population. To allow for low but differential reading levels, much audiotutorial instruction was to be used. It was hypothesized that this self-paced, self-controlled and self-directed learning system would maximally increase achievement in an atmosphere that also promoted a sense of personal worth and control.

The counseling method to be examined will be referred to as the "counseling for internality" strategy. It is in fact a composite of methods shown by the research to be effective in dealing with persons who feel powerless, worthless and alienated, as does this population It was suggested

that nontraditional students who were counseled by this composite would not only grow personally but would also increase their academic achievement.

Therefore, a study was designed whereby individualized instruction and the counseling for internality strategies could be implemented in community colleges in a controlled design. Measures of student behavior over three full academic semesters were taken. These behaviors were evaluated to assess the effectiveness of the individualized instruction and counseling for internality methods. The central theoretical focus of the study was Rotter's concept of internal-external locus of control (Rotter, 1966). It had been shown repeatedly that disadvantaged persons have a higher degree of external locus of control orientation than do non-disadvantaged persons. The following section will explain why externality can be a handicap and will present evidence that internality can be increased by appropriate instruction and counseling.

SECTION II

REVIEW OF THE LITERATURE

Background of Locus of Control

Julian B. Rotter can for a large part be thanked for the internal-external locus of control concept. The basis for its birth was his theory of social learning postulated in his 1954 book, Social Learning and Clinical Psychology. As McLaughlin (1971) points out, Rotter combines a Hullian approach to behavior with cognitive theory. There are four major variables in Rotter's theory which must be understood in order to appreciate it (Rotter, Seeman, Liverant, 1962, p. 480). These are: "(1) the potential for behavior to occur; (2) the expectancy that these behaviors will lead to a given reinforcement in a given situation; (3) the value of the reinforcement in that situation which is the object of the behavior; and (4) the psychological situation in which the behavior reinforcement sequence occurs."

A reinforcement following a particular response or behavior strengthens the expectancy that the next time this response, event, or behavior occurs a reinforcement will follow it, and so forth in the future (Rotter, 1955). As Lefcourt (1966) points out, in Rotter's theory the potential for a behavior to occur in a given situation is based on a person's expectancy that the behavior will insure the attainment of the available reinforcement and the available reinforcement values for that person. Rotter hypothesizes in his 1966 monograph, that these expectancies of reinforcement generalize from specific situations to situations that are more or less related; therefore, generalized expectancies are established in the person's mind. Rotter (1955) details methods of determining similarity or dimensions of similarity among

situations.

Rotter (1966) further suggests that as a person grows and matures he distinguishes when there are and are not causal relationships between events. A person's reinforcement history determines the degree to which a person connects his own actions with the reinforcements he obtains in life. Rotter, et al., (1962, p. 480) point out, "each new occurrence of a reinforcement provides information leading to both a change in the potential for that behavior to occur and to a rise or a lowering of the expectancy for the reinforcement to occur." Thus, the individual's expectancies change only as he sees the causal relationship between his behavior and reinforcement.

If a person has a tendancy not to see or realize the causal relationship between his behavior and the reinforcement (either positive or negative), then the occurrence of the reinforcement provides less information to him and his expectancies change less. Conversely, if a person sees the contingency between his own behavior and a reinforcement, the reinforcement will strengthen or weaken the potential for that particular behavior to happen in the same or similar situation (Rotter, 1966).

At this point the reader can most likely see how the concepts of internal and external locus of control came into being. An external (Rotter, 1966) is a person who does not perceive a reinforcement (one which is in actuality at least in part due to him or his behavior) as being entirely contingent upon his own behavior. Luck, chance, powerful others, etc., are seen by the external as the cause of the reinforcement. As can be imagined from the previous discussion, the external would not believe he could control the

reoccurrence of reinforcement, and thus an occurring reinforcement would provide less information about the correctness of his behavior. Due to this, his expectancies and his behavior would change to a lesser degree (Rotter, et al., 1962). The external would be likely to see reward and punishment or failure as due to luck, fate or chance or powerful others and alter his behavior less--with a great likelihood that he would retain some inefficient behaviors. Basically then, externality reduces the amount of new learning that should occur due to new experiences (Rotter, et al., 1962).

The internal, it follows is a person who generally perceives that an event or reinforcement (a reinforcement which is in actuality at least in part due to him or his behavior) is "contingent upon his own behavior or his own relatively permanent characteristics" (Rotter, 1966, p. 1). The internal is more open to new learning, as his expectancies and behavior will change as experience indicates is necessary--he is more realistic. Obviously, the internal does not see every event as contingent upon his own behavior--if he did he would most likely be classified as mentally ill or unbalanced. Also, it should be mentioned that internality/externality is not a clear-cut dichotomy but more of a continuum.

Empirical Support for the Theory

An internal locus of control orientation, then, means that a person feels he can control the payoffs in life. He has the skills, abilities, or characteristics to acquire the reinforcements which he values and desires, in his opinion. The externally-oriented person does not feel he has personal control of the payoffs in his life. Some other factor such as luck, fate, chance,

powerful others, etc. is seen as having more influence over his life than he does. The thesis of the theory is that internality is more desirable than externality. Subsequent studies investigating this thesis have attempted to correlate locus of control with indices of mental health and successful life adjustment.

Externality has been shown to be positively correlated with:

Alienation. (Tolor and LeBlanc, 1971)

Anxiety. (Christner, 1974; Dixon, etal., 1973; Feather, 1967; Hountras and Scharf, 1970; Joe, 1971; Lefcourt, 1966; Liberty, et al., 1966; Nelson and Phares, 1971; Nowicki, 1972; Platt and Eisenman, 1968; Powell and Vega, 1972; Ray and Katahn, 1968; Rotter, 1966; Tolor and Reznikoff, 1967; and Watson, 1967)

Escapism. (Baker, 1971)

Hostility. (Turner, 1971; Williams and Vantress, 1969)

Learning problems in children. (Loeb, 1975)

Mood disturbance. (Kilpatrick, Dubin and Marcotte, 1974)

Psychopathology. (Blaler, 1961; Cromwell, et al., 1961; Feather, 1967; Harrow and Ferrante, 1969; MacDonald and Games, 1971; Palmer, 1971; Platt, et al., 1971; Shybut, 1968; Smith, et al., 1971)

Suicide proneness. (Abramovitz, 1969; Goldstein and Reznikoff, 1971; Williams and Nichels, 1969)

Untrusting attitude. (Hamsher, Beller and Rotter, 1968)

At the other end of the continuum, there is evidence that internality is positively correlated with:

Academic achievement. (Clifford and Cleary, 1972; Coleman, et al., 1966; Doane, 1973; Eilersen, 1972; Grun, Korte and Baum, 1974; Harrison, 1968; McGhee and Crandall, 1968; Nowicki and Roundtree, 1971)

Activity level in entrepreneurs. (Durand and Shea, 1974)

Age. (Staats, et al., 1974; Wolk and Kurtz, 1975)

Constructive reaction to frustration. (Brisset and Nowicki, 1973; Butterfield, 1964)

Creativity. (DuCette, et al., 1972)

Emotional adjustment. (Wolk & Kurtz,1975)

Impulse control. (Davis and Phares, 1967; Hersch and Scheibe, 1967; Phares, 1965, 1968; Phares, Ritchie and Davis, 1968; Seeman, 1963)

Initiative. (Ibid.)

Job satisfaction. (Tseng, 1970)

Mental ability (not IQ). (Powell and Centa, 1972)

Positive self-concept. (Beebe, 1971; Fish and Karabenick, 1971; Warehime and Woodson, 1971; Wickersham, 1971)

Problem-solving ability, insight. (Baugh, 1973; Tolor and Reznikoff, 1967)

Realistic aspiration level. (Lefcourt, 1966)

School satisfaction. (Koop, 1968)

As Christner (1974) concluded, "internals have a higher self-concept and are generally better adjusted, more independent, more achieving, more realistic, more open to new learning, more creative, more flexible, more self-reliant, etc. Externals are more anxious, more hostile, more suicide

prone, less achieving, have more psychopathology, are more frustrated, less realistic, more dependent and helpless, less open to new learning, less trusting, less flexible, etc. (pp. 6-7)." There is ample evidence from the research that externality is indeed a handicap.

Externality and the Disadvantaged

Locus of control theory predicts that disadvantaged populations will score high on externality. These nontraditional populations have suffered discrimination and manipulation which would theoretically interfere with the development of internality. The research findings have not been completely consistent on this point. Several studies concluded that, when socio-economic status is held constant, there are no locus of control differences between Anglos and blacks (Gable and Minton, 1971; Milgram, 1971; DuCette, et al., 1972) or Chicanos (Garza and Ames, 1974). However, the general consensus is that blacks are indeed more external than Anglos in the same population, i.e., in the lower-class, in the upper-middle class, in unemployment groups, and in prison (Battle and Rotter, 1963; Coleman, et al., 1966; Deslonde, 1971; Katz and Greenbaum, 1963; Lefcourt and Ladwig, 1965, 1966; MacDonald, 1971; Peters, 1972; Scott and Phelan, 1969; Shaw and Uhl, 1971; Williams and Stack, 1972). Chicanos and American Indians have also been shown to be externally-oriented (Coleman, et al., 1966; Friend, 1973; Graves, 1961; Rogers, 1973) Furthermore, persons in lower socio-economic status groups score more externally than persons in higher socio-economic groups (Bartel, 1971; Graves, 1961; Shaw and Uhl, 1971, Yieh, 1971).

The conclusion that "groups whose social position is one of minimal

power either by class or race tend to score higher in the external control direction" (Lefcourt, 1966, p. 212) is understandable. It cannot be denied that these groups are in fact less powerful and that members therefore feel they have less control over the payoffs in our society. The implication for our study was that one way to help nontraditional students both academically and emotionally could be to decrease their high level of externality.

Male-Female Differences

Before a discussion of strategies for decreasing externality is presented, another relevant theoretical finding should be considered. Rotter's (1966) original claim of no sex differences in locus of control scores has not been conclusively supported (MacDonald, 1973). For example, in a study of academic achievement, internality was shown to be positively correlated for males (Koop, 1968) but negatively correlated for females (Koop, 1968; Thurber, 1972). Furthermore, the predictions are not consistent for boys and girls at the grade school level (McGhee and Crandall, 1968; Solomon, et al., 1969). Other discrepancies between scores of the sexes at the college level have been reported (Gozali, et al., 1973; Reimanis, 1974; Wareheime and Foulds, 1971; White, 1971). Therefore, as it might be misleading to pool the data for both sexes in a locus of control study, the data was analyzed separately by sex in the present study.

MacDonald (1973) has proposed a role theory explanation of these disparate male-female results. He posits females are taught to believe, or at least to profess, that they are the weaker, less powerful, less capable sex and that the males in their lives are in control of their environment.

Another possible explanation is Davis's (1971) concept of defensive externality. Such a person behaves as an internal in striving to effect changes in her life (e.g., Procikuk and Breen's (1975) finding that defensive externals have higher grade point averages than do congruent or true externals), but she scores as an external. Her claim that she actually has no real control over the rewards in her life is possibly a defense against the uncomfortable possibility of failure. Another suggestive finding is that the motive to avoid success in college females was significantly, positively correlated with external control scores (Midgley and Abrams, 1974). This indicates that a woman who is anxious about how her success may affect her role as a female and her relationships with males may score externally to explain away her success as due to others and beyond her control. Furthermore, it was found that female defense externals had higher grade point averages than did male defensive externals (Procikuk and Breen, 1975). Apparently some undetermined gender factor is interacting with locus of control orientation which could confound results if ignored.

Instruction Strategies

Research involving shifts from externality to internality with diverse populations has been accumulating. Appropriately enough, this research has tested two approaches--education (instruction) and counseling. Several of the instruction studies used nontraditional populations as their subjects.

Two of these studies worked with disadvantaged urban youth involved in Upward Bound Summer Programs. Hunt and Hardt (1969) demonstrated increases in internality and self-esteem over an 18 month period with these

high school students. Ingram (1972) noted that male participants returning to the program for the second summer scored higher on internality than did new male participants. One study was testing a program to educate indigent mothers outside of the school setting using non-professional teachers (Bilker, 1971). The group showed significantly more internality after nine months of tutoring.

Various populations have been used in other studies on the effect of instruction on locus of control scores. One study using a middle class sample found a positive correlation between internality and nongraded instruction, but a negative correlation between nongraded instruction and science achievement (Brooks, 1973). Research has shown that direct instruction can increase the internality scores of educable mentally retarded children (Wycker and Tyler, 1975). These 9-12 year olds were part of a 12 week instruction program which focused on training for adaptive behavioral responses and awareness of consequences. The same results were found with yet another completely different population, one of senior nursing staff females (Martin and Shepel, 1974). Again, the focus was on training for specific behavioral skills, in this case discriminative ability in counseling situations. These researchers considered the program a success in increasing internality, as well as trust, insight and self-confidence.

Two other studies involved similar populations. One examined a particular type of course referred to as a Personalized System of Instruction with college students (Johnson and Croft, 1975). Based on Rotter's (1966) theory, it was predicted that internals would complete the course faster and

earn higher grades than externals. This hypothesis was not supported by the results. However, the results did indicate a significant shift toward internality, which was attributed to participation in this type of course.

The second study used high school graduates applying to college (Fry, 1975). The results were consistent with Rotter's (1966) theory of differential behavior for internals and externals. Internals were able to learn in all treatment conditions, but they made the greatest gains when allowed to control the instruction. In contrast, externals made the greatest gains when they had the least control over the instruction, and these gains exceeded all other subjects'. This is a provocative finding because it seems to contradict the aforementioned studies. With respect to the present study, it implies that highly external nontraditional students would be best served by traditional methods of instruction stressing external teacher control. That was not our hypothesis. We predicted that nontraditional programs emphasizing individualized attention, tutoring and success experiences would help external students more than traditional programs. However, our major goal is to increase internality and thereby increase learning. This aspect was not examined in Fry's (1975) study.

A recent study (Leon, 1974) with specially admitted, disadvantaged college freshman also had direct implications for this project. Leon (1974) reported that students who performed best academically showed more internal control at the completion of their freshman year. One possible conclusion is that success experiences can have a positive effect on a person's locus of control orientation. Leon's finding conforms to our predictions.

Counseling Strategies

With respect to counseling for internality, there are numerous studies illustrating external to internal (E-I) shifts. Specific E-I counseling strategies have been developed. A review of the earlier studies will be presented to analyze the operative components of these strategies. A review of more recent studies will be used to illustrate the wide range of studies which produced E-I shifts.

Reimanis and Schaefer (1970) developed a strategy which concentrates on the subject's verbal behavior. In order to illustrate to the subject that he does in fact have power to change his situations, the counselor uses three techniques. As reviewed in MacDonald (1972, p. 6) these are:

1. Challenging or confronting "external statement" (e.g., "They want me to be...") with "internal questions" (e.g., "What do you want to be?). With each confrontation the counselor or therapist attempts to replace an external control statement or thought made by the subject with an internal one.

2. Rewarding internal statements (e.g., "I will seek tutoring," "I'll ask my professor for help").

3. Getting the subject to recognize and focus upon the contingencies of his behavior. If he does such and such, then a result will occur.

   a. Questioning what he could have done differently to change the outcome(s) of a past problem(s).

   b. Questioning what he might do to manipulate the outcome(s) of a present problem(s).

   c. Questioning what he would do in the future to cope with

specific problems.

Using these techniques, Reimanis and Schaefer were able to demonstrate a significant difference in the post-test Locus of Control scores (compared to control groups) of large samples of college students.

Another strategy was successfully tested by Dua (1970). Referring to his strategy as an Action Program, Dua was able to show a significant increase in internality in female freshman university students within eight weeks. Summarizing from MacDonald (1972, pp. 6-8) again:

> Dua (1970) theorizes that the attitudes of externals are realistically rooted in past experiences. They do not expect to succeed because they haven't succeeded in the past. They haven't succeeded in the past because they haven't learned efficient methods of producing change.

Therefore, the job of the counselor is to help the student acquire some specific skills. Dua's subjects were women who had trouble relating in interpersonal situations. His techniques were:

> Each client was asked to list three "significant others" with whom she had difficulty relating. After which, the counselor helped the client to define her interpersonal problem in behavioral terms. The counselor then helped the clients individually to establish specific action programs that would lead to developing new but specific behaviors aimed at improving relationships with a significant other. Tangible actions were suggested by the counselor. (MacDonald, 1972, pp. 7-8.)

Still another strategy was used by Masters (1970) in a case study of an adolescent male. MacDonald (1972) refers to this as the Reconstrual Method. Attempts are made to change the person's attitude toward a behavior, but not to change the behavior itself, which is deemed necessary and unavoidable. Examples used involved household chores in which the boy felt manipulated by

his parents. The counselor suggested that the behavior be viewed as a very effective means by which the boy can manipulate his parents--if he performs the behavior, especially without prompting, he can expect certain positive reinforcements from his parents. This technique has limitations (such as universality of appropriate problems), but may be useful in cases such as the one illustrated by Masters.

Majumder, et al. (1973), combined these three strategies (confrontation, action, and reconstrual) into a model to train counselors. The clients were participants in a summer project for disadvantaged youth. Controlling for counselor implementation of the model (upon review of their tapes, it was found that some counselors were not actually using the model), a significant difference was found between Internal-External counseled, non-Internal-External counseled, and non-counseled groups.

A final, early study will be reviewed because of its implication that an External to Internal shift can be produced in a very short, intensive time span. Williams (1970) demonstrated a significant increase in internality in a three day human relations training experience using T-groups (127 participants in none T-groups). Although specific methods are not discussed, Williams describes the general purpose of these encounter or sensitivity groups: "T-group training usually emphasizes responsibility for one's own behavior, awareness of the needs of others, the acquisition of improved interpersonal skills, and the free-flow of 'here and now' (mostly limited to what develops within the time span of the groups) data based upon explicit behaviors and stated values (pp. 1-2)." Williams felt that "the small-group

format provided the social situation and the learning goals of T-groups seemed to parallel a social reinforcement process directed toward internal control (p. 2)" and found evidence of increased internal control in these marathon groups of college students, staff and faculty.

The increased popularity of group therapy is reflected in the more recent literature on locus of control and counseling. One group of incarcerated adolescent felons were tested and found to be highly external prior to an intervention strategy stressing exploration, confrontation and reeducation (Moser, 1975). The experimenter attributed the subsequent shift towards internality to the altered perception of self as a controller instead of a victim of external forces.

A weekend T-group with college students found that the students increased in internality and the control group actually decreased in internality (Lewis and Dawes, 1974). A further conclusion was that individuals with external locus of control orientations who would be inclined to change may be the least likely to participate in experiences which would bring about the changes. That conclusion has important implications for research involving highly external persons.

A study to examine two types of group treatment used college students separated into internal and external groups (Abramowitx, et al., 1974). The researchers reported that more internals were more responsive to nondirective group therapy, and more externals were more responsive to directive group therapy. Still another study (Kilmann, 1974) tried to determine the differential effects of direct versus nondirect group therapy. The short term

groups with female narcotic addicts found neither type of T-group showed a significant External-Internal shift after treatment. Therefore, there was no significant difference in shift between direct and nondirect therapy. However, as in the Lewis and Dawes (1974) study above, the control group shifted enough toward externality to result in a significant difference between the T-group subjects and the controls. Kilmann concluded that T-groups can have a beneficial effect on the locus of control scores of this population by halting the natural shift toward externality. He also found differential effects on internals and externals, in that internals in the direct and the control conditions shifted toward externality. His conclusion was that nondirect group therapy is the best strategy for internals.

When this is compared to the Fry (1975) study on instruction in which the internals made the greatest gains in the conditions with least external control, it appears that there is an optimal level of control beneficial to internals--no control is not helpful (nontreatment condition in Kilmann's study) nor is too much control (external control groups in both Kilmann and Fry). However, the findings for externals are not as clear in the Kilmann study. Apparently, they remained static in both T-groups as well as in the control group, so that it is possible that the internals accounted for the significant difference between T-groups and controls. This would seem to agree with Kilmann & Howell's (1974) conclusion that regardless of the therapeutic approach, internals are better therapeutic risks than externals.

Several studies to be reviewed illustrate the effect of behavior modification techniques on locus of control scores. Eitzen (1974) reported

residential setting based on behavior modification strategies produced significant External-Internal shifts in juvenile delinquent boys. Another study (Reimanis, 1974) using first and third graders as well as college students was also successful. It is noteworthy that the female college students failed to sustain the gain over a six month period. Yet another study (Freidman and Dies, 1974) used test-anxious subjects to compare the effects of counseling and behavior therapies. The results indicated internals exhibited more resistance to the control indicated in these two therapeutic techniques. Again, these findings agree with Abramowitz, et al., (1974), Lewis and Dawes (1974), Kilmann & Howell (1974) and Fry (1975) that internals do not respond favorably to too much external control.

Rationale for the Present Study

In summary, there is ample evidence that a person's locus of control orientation can be modified. Both instruction and counseling strategies have produced External-Internal shifts in a wide range of populations. The findings for internals appear to be more consistent than for externals with respect to Rotter's (1966) theory that internals reject control and externals do not. In the present study, a population was selected which previous research had shown to be high on externality. It was predicted that, as a group, these highly external students would respond (with External-Internal shifts) to individualized instruction. This prediction appears to contradict the evidence to date that externals do not improve with nondirective strategies. However, this project hypothesized that the added elements of individualized attention and success experiences in individualized instruction would encourage the

highly external students to realize their potential. In addition, once these students saw that they could indeed do well in a program in which they had increased control, their locus of control scores would increase toward internality. If the highly external students were to achieve well in a teacher controlled program, there would be less reason for them to experience an External-Internal shift since the teacher might be seen by them as more responsible for their success than they themselves.

Similarly, with the counseling strategy the student was as much involved in the planning and contracting of the outcome as was the counselor. Once again, though, counseling was focused on attaining success experiences and minimizing failures. It was felt that this would create an atmosphere conducive to risk-taking whereby the student could see that she or he could indeed exercise more control than previously over external forces. Also, behaviors and consequences would be discussed so that the student could learn to predict which behaviors were more likely to result in success and thus a resultant sense of control.

Therefore, it was predicted that in the long run these highly external nontraditional students would benefit most from student co-controlled instruction and counseling. Only in such situations could they solve academic and personal problems and also decrease high externality, which is ultimately the most helpful outcome of all by enabling them to solve future problems more skillfully.

Instrumentation

The most frequently used measure of locus of control to date has been

the Internal-External Control Scale developed by Rotter (1966) as a refinement of instruments initiated by his students, Phares (1955) and James (1957). This self-report measure has been extensively analyzed and has spawned dozens of new instruments attempting to adapt and/or correct Rotter's original scale. A review of this body of literature was compiled in order to select instruments for the present study.

As the investigation progressed, the feasibility of using Rotter's original scale was questioned. One concern was the challenge to Rotter's (1966) original claim that the scale was free of the social desirability response bias. The current consensus is that the I-E scale is indeed contaminated by by this bias (Altrocchi, Palmer and Davis, 1968; Berzins, Ross and Cohen, 1970; Feather, 1967; Gold, 1978; Goss and Morosko, 1968; Joe, 1971; Lefcourt and Wine, 1969).

Furthermore, the I-E scale apparently taps more than one clearcut locus of control dimension (MacDonald, 1973). Factor analyses have shown a confound of political (Boor, 1973; Mirels, 1970), social (Levenson, 1972), ideological (Collins, 1973) and the original personal control factors.

Finally, the I-E scale's forced-choice format and difficult reading level make it difficult to use with non-college populations, thereby limiting generalizability. Therefore, it was decided that the Rotter scale would not be used in the present study. Two suitable scales were found, and both were included in this study.

The Nowicki-Strickland Scale for Adults (ANS-IE, Nowicki and Duke, 1973) was selected. This scale overcomes some of the problems of the Rotter

scale--social desirability, denial of psychopathology, a better predictive of achievement behavior, easier to read and understand--but still compares favorably to the Rotter scale as far as validity and reliability are concerned. Also, it compares more favorably than Rotter's scale as a predictive measure based on social learning theory (Rotter, 1954). It further and importantly serves as a measure of control expectancy as well as success expectancy. A detailed description and analysis of this scale is available, see appendix E.

The other locus of control instrument consists of Levenson's (1972) three scales: Internal (I), Powerful Others (P) and Chance (C). This instrument was developed to try to account for the multidimensionality found in Rotter's scale. Levenson considered it important to discriminate between those individuals who believe in chance or luck controlling their lives versus those who feel powerful others are in control. These two types of externals would be expected to behave and believe differently. The potential for control is greater in those who believe that the world is ordered but powerful others are in control than it is in those who believe the world is unordered and things happen by chance. For example, it has been shown that the study habits and attitudes as well as grade point averages were significantly different for college students scoring high P and those scoring high C, in the predicted directions (Procikuk and Breen, 1974). The detailed description of this instrument is available, see appendix E.

In addition, the Marlowe-Crowne Social-Desirability Scale (Crowne and Marlowe, 1960) was included in the test battery. Due to research

mentioned above indicating social desirability had been a problem in some locus of control research, it was felt this was a good methodological safeguard. This seemed especially relevant since Nowicki (1973) reported social desirability may be a factor affecting females' behavior in achievement situations. For more detail, please refer to the write-up of the Marlowe-Crowne scale. see appendix E.

Finally, two instruments to measure anxiety were used and are available, see appendix E. The State-Trait Anxiety Inventory (Spielberger, et al., 1970) was selected for this project since it is considered by many authorities to be the most useful, well constructed and sound anxiety measure available. It was felt that the trait-state conception of anxiety was important for this project since high anxiety-prone students may react to the treatments differently than low anxiety students, which can be measured by the trait scale. Also, it would seem valuable to compare the relationship of anxiety to locus of control in this nontraditional population. It could be illuminating to compare the anxiety scores before and after treatment to see if the relationship between anxiety and locus of control changes as a result of manipulation, for either state or trait anxiety.

The Achievement Anxiety Text (Alpert and Haber, 1960) was included because it offers measures of facilitative and debilitative anxiety in academic situations, which is quite pertinent for the purposes of this study. Also, many of the studies reported relating anxiety and locus of control used this instrument and found significant correlations between debilitative anxiety and externality as well as facilitative anxiety and internality (Christner, 1974). The facilitative

scale will add to the predictive power in an academic situation by including an indicator of adjustment that the debilitative scale by itself might not show. For a comprehensive review and analysis of the relationship between locus of control and anxiety as well as academic achievement, refer to Christner (1974).

In addition to this test battery of five self-report instruments, two biographical questionnaires were used. One was administered before the treatment to collect demographic data on the subjects for possible use in analyzing correlates of internality and externality. The other was administered after the treatment to collect follow-up data on the work adjustment of students after the treatment. An explanation of this questionnaire is included in appendix B.

The final criterion used to evaluate the success of the counseling and instruction treatments was academic performance, as reflected in grade point averages and attrition data. This data was obtained directly from the school records. To summarize, the other two criteria were mental health, as measured by the five scales in the test battery (two locus of control, two anxiety, and one social desirability), and subsequent work adjustment, as reported in the follow-up questionnaire.

The discussion will now be directed from backgrcund and rationale to specific aspects of the design. The hypotheses of the study are stated in the following section as the focus of the design.

Abramowitz, S. I. Locus of control and self-reported depression among college students Psychological Reports, 1969, 25, 149-150.

Abramowitz, C. V., Abramowitz, S. I., Roback, H. B., and Jackson, C. Differential effectiveness of directive and nondirective group therapies as a function of client internal-external control. Journal of Clinical and Consulting Psychology, 1974 December, vol. 42 (6), 849-853.

Alpert, R. and Haber, R. N. Anxiety in academic achievement situations. Journal of Abnormal and Social Psychology, 1960, 61, 2, 207-215.

Baker, S. The relation of locus of control to aggression and escapism. Psychological Reports, 1971, 29, 313-314.

Bartel, N. R. Locus of control and achievement in middle- and lower-class children. Child Development, 1971, 42, 1099-1109.

Battle, E. S. and Rotter, J. B. Children's feelings of personal control as related to social class and ethnic group. Journal of Personality, 1963, 31, 482-490.

Baugh, L. J. Locus of control and problem solving. Dissertation Abstracts International, 1973, 33, 4499B.

Beebe, J. S. Self-concept and internal-external control in children and adolescents. Dissertation Abstracts International, 1971, 31, 4966B.

Berzins, J., Ross, W. and Cohen, D. Skill versus chance activity preferences as alternative measures of locus of control: an attempted cross-validation. Journal of Consulting and Clinical Psychology, 1970, 35, 18-20.

Bialer, I. Conceptualization of success and failure in mentally retarded and normal children. Journal of Personality, 1961, 29, 303-320.

Bilker, L. M. Locus of internal-external control expectancy and expectancy changes in disadvantaged mothers. Dissertation Abstracts International, 1971, 31, 6869B.

Boor, M. Dimensions of internal-external control and academic achievement. Journal of Social Psychology, 1973, 90, 163-164.

Brisset, M. and Nowicki, S. Internal versus external control of reinforcement and reaction to frustration. Journal of Personality and Social Psychology, 1973, 25, 35-44.

Brooks, M.S. A comparative study of the relationship of LOC, the vertical organization of the elementary school and science achievement. Dissertation Abstracts International, 1973, 33, 4197A.

Butterfield, E.B. Locus of control, test anxiety, reactions to frustration, and achievement attitude. Journal of Personality, 1964, 32, 355-370.

Christner, C.A. The relationship between anxiety and locus of control. An unpublished manuscript, University of Texas at Austin, Department of Educational Administration, 1973.

Clifford, M.M. and Cleary, T.A. The relationship between children's academic performance and achievement accountability. Child Development, 1972, 43, 647-655.

Coleman, J.S., Campbell, D.Q., Hobson, C.J., McPartland, J., Mood, A.M., Weinfeld, F.D. and York, R.L. Equality of educational opportunity. Superintendent of Documents, Catalog No. FS 5.238: 38001. Washington D.C., Government Printing Office, 1966.

Collins, B.E. Four separate components of Rotter's Internal-External Scale Paper presented at the 81st Annual Convention of APA, 1973.

Cromwell, R.L. Rosenthal, D., Shakow, D. and Zahn, T.P. Reaction time, locus of control, choice behavior and descriptions of parental behavior in schizophrenic and normal subjects. Journal of Personality, 1961, 29, 363-380.

Crowne, D.P. and Marlowe, D. The Approval Motive. New York: John Wiley and Sons, 1964.

Crowne, D.P. and Marlowe, D. A new scale of social desirability independent of psychopathology. Journal of Consulting Psychology, 1960, 24, 349-354.

Davis, D.E. Internal-external control and defensiveness. Dissertation Abstracts International, 1971, 31, 4985B.

Davis, W L. and Phares, E.J. Internal-external control as determinant of information-seeking in a social influence situation. Journal of Personality, 1967, 35, 547-561.

Deslonde, J.L. Beliefs in internal-external control of reinforcement, racial ideology, and militancy of urban community college students. Dissertation Abstracts International, 1971, 234A.

Dixon, P., Fitzpatrick, J. and O'Neill, H. The role of internal-external within computer-managed instruction. Paper presented at the annual meeting of the Southwestern Psychological Association, Dallas, Texas, April, 1973.

Doane, B. S. The effects of homework and locus of control on arithmetic skills achievement in fourth grade students. Dissertation Abstracts International, 1973. 33, 5548A.

Dua, P. S. Comparison of the effects of behaviorally oriented action and psychotherapy reeducation on introversion-extraversion, emotionality, and internal-external control. Journal of Counseling Psychology, 1970, 17, 567-572.

DuCette, J., Wolk, S. and Friedman, S. Locus of control and creativity in black and white children. Journal of Social Psychology, 1972, 88, 297-298.

Durand, D. and Shea, D. Entrepreneurial activity as a function of achievement motivation and reinforcement control. Journal of Psychology, 1974 September, vol. 88 (1), 57-63.

Ehrle, A. An alternative to "words" in the behavior modification of disadvantaged youth. Vocational Guidance Quarterly, 17: 41-46, 1968.

Eilersen, H. J. Locus of control and achievement and participation in structured and unstructured introductory psychology courses. Dissertation Abstracts International, 1972, 33, 2164A.

Eitzen, D. S. Impact of behavior modification techniques on locus of control of delinquent boys. Psychological Reports, 1974 December, vol 35 (3), 1317-1318.

Feather, N. T. Some personality correlates of external control. Australian Journal of Psychology, 1967, 19, 253-260.

Feather, N. T. Valence of outcome and expectation of success in relation to task difficulty and perceived locus of control. Journal of Personality and Social Psychology, 1967, 7, 372-386

Fish, B. and Karabenick, S. A. Relationship between self-esteem and locus of control. Psychological Reports, 1971, 29, 784.

Friedman, M. L. and Dies, R. R. Reactions of internal and external test-anxious students to counseling and behavior therapies. Journal of Consulting and Clinical Psychology, 1974 December, vol. 42 (6), 921.

Friend, R. R. The relationship between academic achievement and locus of control in middle and low SES level black, white, and Mexican-American high school students in an urban school setting. Dissertation Abstracts International, 1973, 34, 1, 89A.

Fry, P. S. Interaction between locus of control, level of inquiry, and subject control in the helping process: a laboratory analogue study. Journal of Counseling Psychology, 1975 July, vol. 22 (4), 280-287

Gable, R. K. and Minton, H. L. Social class, race and junior high school students' belief in personal control. Psychological Reports, 1971, 29, 1188-1190.

Gardner, J. Speech delivered at the U. S. Department of Agriculture Graduate School, Washington, D. C., September 8, 1967.

Garza, R. T. and Ames, R. E. A comparison of Anglo- and Mexican-American college students on locus of control. Journal of Consulting and Clinical Psychology, 1974 December, vol. 42 (6), 919.,

Glasser, W. Schools without failure. New York: Harper and Row, 1969.

Goldstein, A. M. and Reznikoff, M. Suicide in chronic hemodialysis patients from an external locus of control framework. American Journal of Psychiatry, 1971, 27, 1204-1207.

Gozali, H., Cleary, T. A., Walster, G. W. and Gozali, J. Relationship between the internal-external control construct and achievement. Journal of Educational Psychology, 1973, 64, 9-14.

Goodlad, J. I. The future of learning: Into the 21st century. In J. E. Roueche and B. R. Herrscher (Eds.), Toward instructional accountability. Palo Alto, Calif.: Westinghouse Learning Press, 1973, 2-15.

Graves, T. D. Time perspective and the deferred gratification in a tri-ethnic community. Research Report No. 5, Tri-Ethnic Research Project. University of Colorado, Institute of Behavioral Science, 1961.

Gruen, G. E., Korte, J. R. and Baum, J. F. Group measure of locus of control. Developmental Psychology, 1974 September, vol. 10 (5), 683-686.

Hamsher, J. H., Geller, J. D. and Rotter, J. B. Interpersonal trust, internal-external control, and the Warren Commission Report. Journal of Personality and Social Psychology, 1968, 9, 210-215.

Harrison, F. I. Relationship between home background, school success, and adolescent attitudes. Merrill-Palmer Quarterly, 1968, 14, 331-344.

Harrow, M. and Ferrante, A. Locus of control in psychiatric patients. Journal of Consulting and Clinical Psychology, 1969, 33, 582-589.

Herrscher, B. R. Alternatives to the invalid assumptions of current educational practice. In J. E. Rouche and B. R. Herrscher (Eds.), Toward Instructional Accountability. Palo Alto, Calif.: Westinghouse Learning Press, 1973, 47-51.

Hersch, P. D. and Scheibe, K. E. On the reliability and validity of internal-external control as a personality dimension. Journal of Consulting Psychology, 1967, 31, 609-614.

Hountras, P. T. and Scharf, M. C. Manifest anxiety and locus of control of low-achieving college males. Journal of Psychology, 1970, 74, 95-100.

Hunt, D. E. and Hardt, R. H. The effect of upward bound programs on the attitudes, motivation, and academic achievement of Negro students. Journal of Social Issues, 1969, 25, 117-129.

Ingram, J. H. Locus of control and self-esteem of compensatory education students. Dissertation Abstracts International, 1972, 33, 1979A.

James, W. H. Internal versus external control of reinforcement as a basic variable in learning theory. Unpublished doctoral dissertation, Ohio State University, 1957.

Joe, V. C. Review of the internal-external control construct as a personality variable. Psychological Reports, 1971, 28, 619-640.

Johnson, W. G. and Croft, R. G. Locus of control and participation in a personalized system of instruction course. Journal of Educational Psychology, 1975 June, vol. 67 (3), 416-421.

Katz, I. and Greenbaum, C. Effects of anxiety, threat, and racial environment on task performance on Negro college students. Journal of Abnormal and Social Psychology, 1963, 66, 562-567.

Kilmann, P. R. Direct and non-direct marathon group therapy and internal-external control. Journal of Counseling Psychology, 1974, vol. 21 (5), 380-384.

Kilmann, P. R. and Howell, R. J. Effects of structure of marathon group therapy and locus of control on therapeutic outcome. Journal of Consulting and Clinical Psychology, 1974 December, vol. 42 (6), 912.

Kilpatrick, D. G., Dubin, W. R. and Marcotte, D. B. Personality, stress of the medical education process, and changes in affective mood state. Psychological Reports, 1974 June, vol. 34 (3), 1215-1223.

Koop, V.R. Relationship of internal-external control and adjustment and satisfaction in structured and unstructured academic programs. ERIC #EDO53503, 1968.

Lefcourt, H.M. Internal versus external control of reinforcement; a review. Psychological Bulletin, 1966, 65, 206-220.

Lefcourt, H.M. and Ladwig, G.W. The American Negro: A problem in expectancies. Journal of Personality and Social Psychology, 1965, 1, 377-380.

Leon, G.R. Personality change in the specially admitted disadvantaged student after one year in college. Journal of Clinical Psychology, 1974 October, vol. 30 (4), 522-528.

Levenson, H. Distinctions within the concept of internal-external control: Development of a new scale. Proceedings, 80th Annual Convention, APA, 1972.

Lewis, P. and Dawes, A.S. Effects of sensitivity training on belief in internal control of interpersonal relationships. Psychotherapy: Theory, Research and Practice, 1974, Fall, vol. 11 (3), 282-284.

Liberty, P.G., Burnstein, E. and Moulton, R.W. Concern with mastery and occupational attraction. Journal of Personality, 1966, 34, 105-117.

Loeb, R.C. Concomittants of boys' locus of control examined in parent-child interactions. Developmental Psychology, 1975 May, vol. 11 (3), 353-358.

MacDonald, A.P. Beliefs in locus of control: Unidimensional or multidimensional. Proceedings of the American Psychological Association, 1973.

MacDonald, A.P. Internal-external locus of control change techniques. Rehabilitation Literature, 1972, 33, 44-47.

MacDonald, A.P. and Games, R.G. Ellis' irrational values: a validation study. Unpublished paper, West Virginia University, 1971.

Majumder, R.D., Greever, K.B., Holt, P.R. and Friedland, B.U. Counseling techniques tested. Journal of Rehabilitation, 1973, Sept.-Oct., 19-22.

Martin, R.D. and Shepel, L.F. Locus of control and discrimination ability with lay counselors. Journal of Consulting and Clinical Psychology, 1974 October, vol. 42 (5), 741.

Masters, J.C. Treatment of "adolescent rebellion" by the reconstrual of stimuli. Journal of Clinical and Consulting Psychology, 1970, 35 (2), 213-216.

McGhee, P. E. and Crandall, V. C. Beliefs in internal-external control of reinforcements and academic performance. Child Development, 1968, 39, 91-102.

McLaughlin, B. Learning and Social Behavior. New York: Ronald Press, 1950.

Midgley, N. and Abrams, M. S. Fear of success and locus of control in young women. Journal of Consulting and Clinical Psychology, 1974 October, vol. 42 (5), 737.

Milgram, N. A. Locus of control in Negro and white children at four age levels. Psychological Reports, 1971, 29, 459-465.

Mirels, H. L. Dimensions of internal versus external control. Journal of Consulting and Clinical Psychology, 1970, 34, 226-228.

Moser, A. J. Structured group interaction: a psychotherapeutic technique for modifying locus of control Journal of Contemporary Psychotherapy, 1975 Winter, vol. 7 (1), 23-28.

Nelson, P. C. and Phares, E. J. Anxiety, discrepancy between need value and expectancy, and internal-external control. Psychological Reports, 1971, 28, 663-668

Nowicki, S. and Duke, M. P. In locus of control scale for non-college as well as college adults. Journal of Personality Assessment, 1974, 38 (2), 136.

Nowicki, S. Locus of control and adjustment as measured by personality inventories. An unpublished manuscript, Emory University, 1972.

Nowicki, S. and Roundtree, J. Correlates of locus of control in secondary school age students. Developmental Psychology, 1971, 4, 477-478.

Palmer, R. D. Parental perception and perceived locus of control in psychopathology. Journal of Personality, 1971, 39, 420-431.

Peters, F-G. J. Internal-external locus of control with black and white fifth grade students. Dissertation Abstracts International, 1972, 33, 5, 2084A.

Phares, E. J. Differential utilization of information as a function of internal-external control. Journal of Personality, 1968, 36, 649-662.

Phares, E. J. Internal-external control as a determinant of social influence exerted. Journal of Personality and Social Psychology, 1965, 2, 642-647.

Phares, E.J., Ritchie, D.E. and Davis, W.L Internal-external control and reaction to threat. Journal of Personality and Social Psychology, 1968, 10, 402-405.

Platt, J.J. and Eisenman, R. Internal-external control of reinforcement, time perspective, adjustment, and anxiety. Journal of General Psychology, 1968, 79, 121-128.

Platt, J.J., Pomeranz, D. and Eisenman, R. Validation of the Eysenck Personality Inventory by the MMPI and internal-external control scale. Journal of Clinical Psychology, 1971, 27, 104-105.

Powell, A. and Centa, D. Adult locus of control and mental ability. Psychological Reports, 1972, 30, 829-830.

Powell, A. and Vega, M. Correlates of adult locus of control. Psychological Reports, 1968, 23, 1196.

Procikuk, T.J. and Breen, L.J. Defensive externality and its relation to academic performance. Journal of Personality and Social Psychology, 1975 March, vol. 31 (3), 549-556.

Procikuk, T.J. and Breen, L J. Locus of control, study habits and attitudes, and college academic performance. Journal of Psychology, 1974 September, vol. 88 (1), 91-95.

Ray, W.J. and Katahn, M. Relation of anxiety to locus of control. Psychological Reports, 1968, 23, 1196.

Reimanis, G. Effects of locus of reinforcement control modification procedures in early graders and college students. Journal of Educational Research, 1974 November, vol. 68 (3), 124-127.

Reimanis, G. and Schaeffer, M. Effects of counseling and achievement motivation training on locus of reinforcement control. Paper presented at the annual Eastern Psychological Association Convention, Atlantic City, 1970.

Roger, D.P.B. Personality traits and academic achievement among Mexican-American students. Dissertation Abstracts International, 1973, 33, 5, 2179A.

Rotter, J.B., Chance, J.E. and Phares, E.J. (Eds.) Some implications of Social Learning Theory for the practice of psychotherapy. Applications of a Social Learning Theory of personality. New York: Holt, Rinehart and Winston, 1972, pp. 554-573.

Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 1966, 80, No. 1 (Whole No. 609)

Rotter, J. B. Social learning and clinical psychology. New York: Prentice-Hall, 1954.

Rotter, J. B., Seeman, M. and Liverant, S. Internal versus external control of reinforcements: A major variable in behavior theory. In N. F. Washburne (Ed.) Decisions, values and groups, vol. 2. New York: Pergamon Press, 1962, 473-516.

Rotter, J. B. The role of the psychological situation in determining the direction of human behavior. In M. R. Jones (Ed.) Nebraska Symposium on Motivation, 1955. Lincoln: University of Nebraska Press, 1955, 245-269.

Roueche, J. E. Salvage, redirection or custody. Washington: American Association of Junior colleges, 1968.

Scott, J. D. and Phelan, J. G. Expectancies of unemployable males regarding sources of control of reinforcement. Psychological Reports, 1969, 25, 911-913.

Seeman, M. Alienation and social learning in a reformatory. American Journal of Sociology, 1963, 69, 270-289

Shaw, R. L. and Uhl, N. P. Control of reinforcement and academic achievement. Journal of Educational Research, 1971, 64, 226-228.

Sheils, M. "Why Johnny can't write." Newsweek. December 8, 1975, 58-65.

Shybut, J. Time perspective, internal versus external control, and severity of psychological disturbance. Journal of Clinical Psychology, 1968, 24, 312-315.

Smith, C. E., Pryer, M. W. and Distefano, M. K. Internal-external control and severity of emotional impairment among psychiatric patients. Journal of Clinical Psychology, 1971, 27, 449-450.

Solomon, D., Houlihan, K. A and Parelius, R. J. Intellectual achievement responsibility in Negro and white children. Psychological Reports, 1969, 24, 479-483.

Spielberger, C. D., Gorsuch, R. L. and Lushene, R. E. Manual for the State-Trait Anxiety Inventory. Palo Alto, California: Consulting Psychologists Press, 1970.

Staats, S., et al. Internal versus external locus of control for three age groups. International Journal of Aging and Human Development, 1974 Winter, vol. 5 (1), 7-10.

Thurber, S. Defensive externality and academic achievement by women. Psychological Reports, 1972, 30, 454.

Tolor, A. and LeBlanc, R. F. Personality correlates of alienation. Journal of Consulting and Clinical Psychology, 1971, 37, 444.

Tolor, A. and Reznikoff, M Relation between insight, repression-sensitization, internal-external control and death anxiety. Journal of Abnormal Psychology, 1967, 72, 426-430.

Tseng, M.S. Locus of control as a determinant of job proficiency, employability, and training satisfaction of vocational rehabilitation clients. Journal of Counseling Psychology, 1970, 17, 487-491.

Turner, J.A. Locus of control, reaction to innocent victim, and defense mechanisms. Dissertation Abstracts International, 1971, 32, 545B.

Warehime, R.G. and Foulds, M.L. Perceived locus of control and personal adjustment. Journal of Consulting and Clinical Psychology, 1971, 37, 250-252

Warehime, R.G. and Woodson, S. Locus of control and immediate affect states. Journal of Clinical Psychology, 1971, 27, 443-444.

Watson, D. Relationship between locus of control and anxiety. Journal of Personality and Social Psychology, 1967, 6, 91-92.

White, K. Belief in reinforcement control among Southern Negro adolescents. Journal of Social Psychology, 1971, 85, 149-150.

Wicker, P.L. and Tyler, J.L. Improving locus of control through direct instruction: a pilot study. Education and Training of the Mentally Retarded, 1975 February, vol. 10 (1), 15-18.

Wickersham, P.H. Classroom interaction patterns: Differential effects and relationships between sixth grade children's self-concepts and locus of control of reinforcement. Dissertation Abstracts International, 1971, 32, 804A.

Williams, C.B. and Nichels, J.B. Internal-external control dimension as related to accident and suicide proneness. Journal of Consulting and Clinical Psychology, 1969, 33, 485-494.

Williams, C. B. and Vantress, F. E. Relation between internal-external control and aggression. Journal of Psychology, 1969, 71, 59-61.

Williams, G. D. Internal versus external locus of control changes with human relations training participants. Student Affairs Research, Pennsylvania State University, Report 70-8, September, 1970.

Williams, J. G. and Stack, J. J. Internal-external control as a situational variable in determining information seeking by Negro students. Journal of Consulting and Clinical Psychology, 1972, 39, 2, 87-93.

Wolk, S. and Kurt, J. Positive adjustment and involvement during aging and expectancy for internal control. Journal of Consulting and Clinical Psychology, 1975 April, vol. 43 (2), 173-178.

Yieh, M. C. Relationships between locus of control and some familial and demographic variables in Educable Mental Retardates. Dissertation Abstracts International, 1971, 32, 1971A.

SECTION III

HYPOTHESES

Hypotheses

The purpose of the design will be to test the following hypotheses:

1. Nontraditional students will show a greater increase in the criteria for success following participation in either individualized instruction courses or in counseling for internality than will nontraditional students in traditional courses and traditional counseling.

2. Individualized instruction and counseling for internality programs will not differ in effectiveness in increasing scores on the success measures. (Null hypothesis to test differential effectiveness of instruction and counseling strategies.)

SECTION IV

METHODS AND PROCEDURES

Part A: Design

Design

The basic research design was a factorial analysis of co-variance of change scores containing two levels of instruction (individualized and traditional); two levels of counseling (counseling for internality and traditional counseling) and two levels of sex (male, female). In addition, each dependent variable was examined by quarter-splits of the pre-test scores of each student in order to better understand if students differing in initial scores differed in amount of change. The dependent variables were as follows: Nowicki-Strickland Internal-External Locus of Control score, the three subscale scores on the Levenson I, P, C Locus of Control Scale, the students' scores on both the state and trait anxiety scales from the State Trait Anxiety Inventory, facilitative and debilitative anxiety scores from the Alpert-Haber Achievement Anxiety Test, and the students' scores on the Marlowe-Crowne Social Desirability Scale were used as a methodological check for the researchers.

The design can easily be depicted in the following four-fold table:

		Instruction	
		Individualized	Traditional
Counseling	Composite Counseling	School 2 School 3	School 1 School 7 School 9
	Traditional	School 4 School 5 School 6 School 9-Nursing	School 8 School 10 School 10-Nursing

Table VI-A-1: Design

The procedures used in assigning particular schools to either level of counseling factors were: the selection of schools for the counseling cells was a function of two primary considerations - (1) schools with a high instructional rating on individualized instruction checklist, and (2) schools willing to devote inservice time to the development of Reality Therapy and Counseling for Internality Skills by counselors and instructors. The staff and schools in composite counseling cells received Reality Therapy and Locus of Control counseling training. Schools who received this training and were highly rated instructionally were in the double treatment - individualized instruction and experimental counseling cell. The schools in the traditional cells received no training. Subsequent observations of all counseling cells indicated that counseling in the experimental and traditional cells occurred with equal frequency but that the experimental schools did use the Reality Therapy and Counseling for Internality techniques. (See section IV, part C for further details on the composite counseling strategies intervention).

The procedures used in assigning particular schools to either level of the instructional factor were: schools were qualified for the individualized instruction cells based upon the self-report of instructors using the Washburn-Herrscher Individualized Instruction Checklist (See in Appendices). Project staff verified instructor self-ratings by making independent observations. Inter-rater reliability was extremely high. Our criterion for qualification for being in the individualized instruction cell

was any school where over 75% of the instructors responded yes to over 50% of the 61 items of the Washburn-Herrscher Questionnaire. This was an arbitrary definition but was consistent with the expert opinion regarding which schools were delivering the best individualized instruction. Opinions were based upon the items in the individualized instruction checklist (See Section IV, part B for further details).

In addition to the hypothesis testing by controlling the counseling and instructional variables, the inter-relationships among variables both independent and dependent were examined in detail by correlational strategies. Certain demographic characteristics of the subjects, i.e. income level, sex, age and racial/ethnic background were carefully analyzed. The main focus for the data gathering was the fall semester of 1974. The pre-test was administered at the beginning of this semester. This was followed by the first post-test given in December, 1974. A second post-test was administered in late spring or early summer of 1975. School 9 Nursing Program and School 10 and its Nursing Program did not participate in the second post-testing. Additional data were subsequently gathered through the use of a follow-up questionnaire which was mailed to participating students in three separate mailings in January and February 1976. The primary data analyses focused upon the Fall semester of 1974 because during this time all the subjects were involved in their respective developmental studies program or nursing programs. Since not necessarily all the students were involved in developmental studies

programs or nursing after the Fall semester of 1974, the subsequent post-test was conducted as a follow-up to see what further changes had occurred in the students scores on the personality test. The follow-up questionnaire which was mailed early in 1976 was conducted to examine such things as vocational interests, aspirations, etc.

SECTION IV

METHODS AND PROCEDURES

Part B: Description of Individualized Instruction Intervention

Training and Measurement

The instructional systems set in place or observed in operation among NIMH participating schools are based on the writings of Ralph Tyler (1950), James Popham (1970), Bela Banathy (1973), and Jerrold Kemp (1971).

The particular systems model exported and endorsed by this project and against which the criteria for evaluation instruction in project schools was determined is a synthesis of the work of the above writers and succinctly articulated in operational terms by Herrscher (1973) and Washburn (1975).

The basic elements of this model (Herrscher, 1973) are as follows: (a) rationale, (b) specific instructional objectives, (c) pre-assessment, (d) learning activities, (e) post-assessment, and (f) revision.

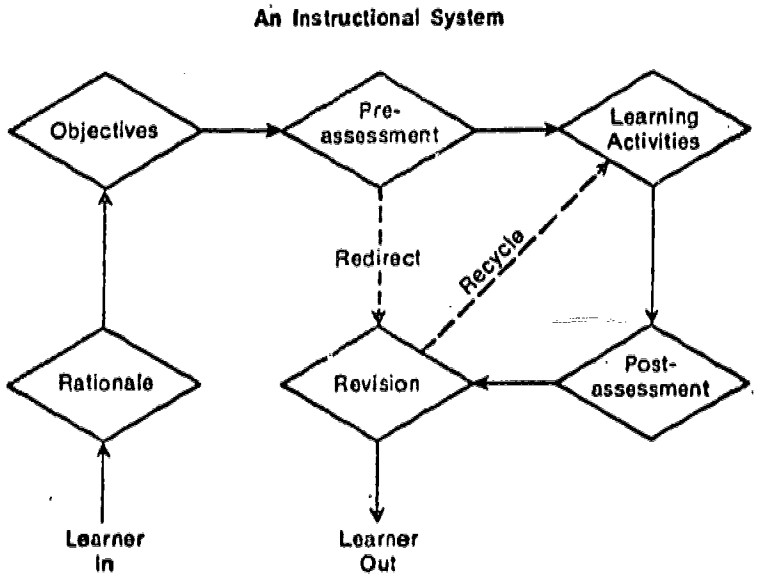


Figure IV-B-1

Herrscher (1973) and Washburn (1975) state that a systems approach enables the instructor to monitor and measure the degree of mastery (Bloom, 1973) over a given content and/or skill area.

An Examination of Each Facet of the Systems Approach

1. Rationale. According to Herrscher (1973) and Washburn (1975) students have increased motivation to learn when they are told in clear non-esoteric language why it is important that they master the course content. Without a clear student-centered rationale, learning activities become barriers to climb over rather than being tied to the student's personal and/or vocational needs.

An instructor writing a course or unit rationale needs to relate his reasons for requiring the learning of specific content to the student's purpose and objectives. This approach suggests that instructors would benefit by listening carefully to reasons students give for taking the course and, where possible, tie the rationale to as many student needs as possible. In addition, an effective rationale might relate course content to actual on-the-job behavior. Specific reasons might also be given concerning how certain elements of the course will prepare the student for success at the next course level.

2. Objectives. Herrscher (1973) and Washburn (1975) describe objectives as the foundation or cornerstone of any instructional system. Clearly stated objectives are vital not only as a territorial map for instructors and students but as the basis for any successful evaluation program.

The objectives for a unit of instruction are written in terms of student behavior. Objectives state what the student will be able to do as a result of the instruction.

Washburn (1975) encourages not only instructor-designed objectives, but those developed out of conversations between the student and the teacher.

Mink (1975) offers a systematic approach for teachers to use in the negotiation of learning objectives with students. Mink's "Counseling for Internality" is a behavior change strategy quite compatible with the systems approach. Mink's model builds on and incorporates most of the elements of Glasser's (1969, 1972) Reality Therapy principles, a system with proven application in the educational setting.

3. Pre-Assessment. Herrscher (1973) and Washburn (1975) both agree pre-assessment is necessary to determine the readiness of the student to pursue the course objectives. According to these authors, this step is needed to determine (a) if the student has the necessary prerequisite knowledge and skills to benefit from the instruction, (b) which, if any, of the stated objectives he can already perform, and (c) where he should be placed on the learning activities continuum when there is an indication he already can perform some of the expected behaviors. Pre-assessment offers the opportunity for remediation should the student not possess entry level skills as well as the redirection into areas more compatible with his current skill profile.

4. Learning Activities. Learning activities are the vehicles used by the student to move through the course or unit of instruction and to

satisfy the behavioral requirement(s) of the objective(s). The learning activities are means to the objective(s), not ends in themselves.

Learning activities should be carefully selected in light of the instructor's understanding of the student(s) he is teaching. Non-traditional students often benefit from non-traditional means of learning. Research appears to point in the direction of dialogical methods and multisensory modes of instruction.

Regardless of the approach used, Herrscher (1973) suggests the following factors be given serious consideration.

Explicit directions. Student should be given explicit directions regarding all procedures and policies. Operationalizing the systems approach is a new experience for most students and many instructors. Assumptions, often left unquestioned under traditional modes of instruction, should be carefully scrutinized. When in doubt, be explicit. Where possible, try out the system on a small group of learners and revise the directions accordingly.

Learning modules of appropriate length. The length of a module or unit of instruction would vary with the age, maturity, ability and motivation of the students in the target group. Units for developmental course should be designed for completion in 1 - 3 instructional periods.

Frequent practice. Prior to taking the criterion test for the performance level desired (A, B, C, etc.) the student should be given ample opportunity to practice equivalent behavior in a suitable setting. If criterion is not reached, the student typically engages in another

period of instruction and/or practice followed by a subsequent attempt at criterion. This cycle may be continued until the student masters the content at the mutually agreed upon level.

Knowledge of results. Non-judgmental feedback to the learner about his performance keeps the student involved and motivated. Feedback of the kind that focuses specifically on what the student is doing well and builds on the base of previous accomplishments will, in most cases, produce a level of performance satisfactory to the teacher and the student alike. A rule of thumb is not to allow a period of instruction to end without providing explicit feedback to the student regarding progress on the task at hand. Feedback need not come only from the instructor but can be designed into the learning activities themselves.

Media. Media, according to Washburn (1975), needs to be carefully tied to objectives and is best determined after the objectives are in place. Herrscher (1973) indicates media can be broadly defined as persons, materials, and activities. Thus, media can be said to be all planned input into the classroom to produce the desired learning.

5. Post-Assessment. Herrscher (1973) as well as Washburn (1975) strongly support the notion of a criterion-referenced approach to evaluation. In criterion-referenced testing, a standard of acceptable student performance is established prior to the test. Each student's performance is compared against the standard, not against other students in the class. Typically students negotiate a standard (i.e., A, B, or C) suitable to their objectives and attempt to achieve criterion for that standard.

The difference between norm and criterion referenced testing is shown in the following table by Herrscher (1973).

Table IV-B-1

Norm-Referenced Approach	Criterion-Referenced Approach
Testing is used to ascertain a student's level of performance in relation to the performance of others	Testing is used to ascertain a student's performance with respect to an established criterion or performance standard.
The normal curve is a guide in assigning grades. It serves to sort students.	Mastery of objectives is the basis for grading, with instruction adapted to individual learning rates.
Aptitude is viewed as the capacity for learning.	Aptitude is viewed as the time required to master objectives.
Testing is used to assess individual students.	Testing is used to assess teaching.

Research (i.e., Bloom, et al, 1973) has indicated we all learn different subjects at different rates. If instruction is to respond appropriately to this fact, then the system delivering the instruction must be sufficiently flexible to accommodate students learning at different rates and in different ways. The same is true of the evaluation system. Thus, a testing system based on criterion-referenced approaches is essential.

6. Revision. Course revision (Herrscher, 1973; Washburn, 1975) is based on feedback from the students. Revision data is gathered for the specific purpose of improving the instructional system so more students can achieve the objectives. Revision data is more valid and useful when

gathered systematically.

Washburn (1975) believes that the revision process is the most essential element of the systems approach to instruction. Four of Washburn's means of gathering revision data are outlined here:

> Error rate: This involves the collection of responses to each test item and an analysis of those items in which the desired response is not obtained with the expected degree of consistency.
>
> Interview technique: This typically involves a small group of student working with the teacher or evaluator to determine specific ways in which the instruction can be improved. This technique is often more successful immediately following a specified unit of instruction rather than at the end of the course.
>
> Diagnostic-criterion test: Here an instructor attempts to measure the criterion behavior itself. For example, do the behaviors called for fairly represent the achievement of the objectives? In addition, the instructor or evaluator looks at the degree to which the students reached criterion on each of the objectives. For example, how many students reached what criterion level at the A, B, C, D, performance level?
>
> Block out: This approach permits the streamlining of the system by "blocking out" all material in a given learning sequence not demonstrated as essential in meeting objectives. Blocking out permits an instructor to eliminate much of the "busy work."

These and other systematic approaches should prove helpful in the revision of any instructional system.

The six elements or steps of a systems approach to instruction (rationale, objectives, pre-assessment, learning activities, post-assessment, and revision) form the framework utilized by the NIMH project staff in training instructors and in evaluating the instruction systems of appropriate project schools.

Measurement of Individualized Instruction

In order to measure the degree of individualized instruction practiced in the developmental studies programs of participating community colleges, a checklist was developed by project consultants. The "NIMH Project Definition of Individualized Instruction Checklist" was evolved by Drs. Barbara P. Washburn and Barton Herrscher in the fall of 1974. The Checklist was designed against the systems approach to instruction set forth in this paper. The Checklist validity and interrater reliability was determined via pilot testing at Austin Community College, Austin, Texas. Subsequently, trained NIMH project staff members rated approximately 20% of the instructors, with the exception of College 8, in each of the developmental studies programs at participating schools. Those instructors also rated themselves and then the self-ratings and observer ratings were checked for reliability. The following chart and table were used to summarize the Checklist data.

School 7's instructors did not wish to rate themselves, so two qualified project staff rated their classes on the individualized instruction checklist. Their ratings fell into the traditional end of the instructional cell so this is where they were placed in the study. No ratings were obtained from School 10's developmental studies instructors or from the nursing instructors. Again a very qualified NIMH project staff member rated the instructional aspect of both programs. Both were placed in the more traditional instruction cell by these ratings. This is perhaps due to the programs only recently (at the time of the study) having been instituted.

Table IV-B-2

Summary of NIMH Project "Checklist" Data by College

NIMH Project College	N=	# Items YES by 50%	# Sections Meeting Criterion	66%	# S's	% Lost Data	75%	# S's	% Lost Data	100%	# S's	% Lost Data
4	3			54	8					38	6	29%
6	6	56	8	48	8	14%	47	8	2%	39	6	17%
3	3			46	6					34	5	26%
5	7	50	8	44	7	12%	44	7	0%	31	4	29%
2	6	44	6	40	5	9%	36	5	10%	23	3	36%
9	6	43	8	34	5	21%	25	3	36%	16	1	36%
1	4	40	5	29	4	28%	29	4	0%	16	1	44%
8	39	36	5	27	2	25%	18	1	33%	1	0	94%
9 Nursing Program	4	48		46			45	3		43	0	

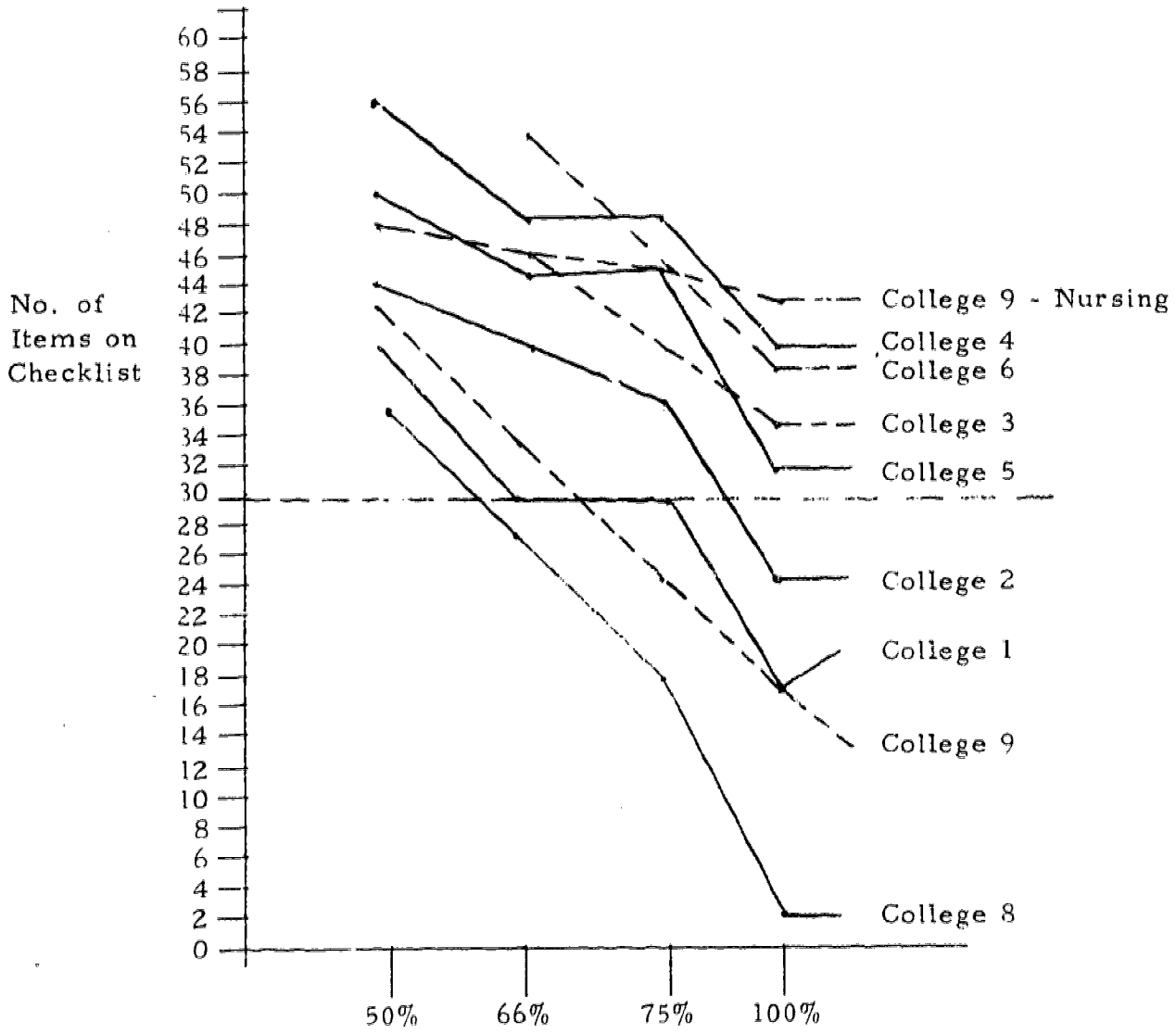
Notes:

Maximum Score = 61

Criterion for sections: 50% or more items in a section answered "yes" by either 50%, 55%, 75% or 100% of respondents.

% of Lost Data = % of "yes" items lost by increasing from one criterion level to the next.

T A B L E IV-B-3



% Of Instructors Answering "Yes"
On NIMH Project
"Definition of Individualized Instruction Checklist"

REFERENCES (Section IV-B)

Banathy, Bella H. Developing a Systems View of Education: The Systems-Model Approach. Belmont, California: Lear Siegler/Fearon Publishers, 1973.

Bloom, B. S. Learning for Mastery. In J. E. Roueche and B. R. Herrscher (eds.), Toward Instructional Accountability. Palo Alto: Westinghouse Learning Press, 1973.

Herrscher, B. R. A Systematic Approach to Instruction. In J. E. Roueche and B. R. Herrscher (eds.), Toward Instructional Accountability. Palo Alto: Westinghouse Learning Press, 1973.

Kemp, Jerold B. Instructional Design: A Plan for Unit and Course Development. Belmont, California: Fearon Publishers, 1971.

Mink, O. G. and Roueche, J. E. Counseling for Internality. Unpublished manuscript, 1975. (Available from Mink, Community College Education, EDB 310, University of Texas at Austin, Austin, Texas 78712. Mimeographed.)

Popham, W. James. "Instructional Objectives Exchange, 1960-1970." CSE Reprint No. 19. Los Angeles: Center for the Study of Evaluation, 1970.

_____. Modern Measurement Methods. Filmstrip-tape program. Instructor's Manual. Los Angeles: VIMCET, 1969.

_____. The Teacher Empiricist. Los Angeles: Tinnon-Brown, 1970.

Tyler, Ralph W. Basic Principles of Curriculum Instruction. Chicago: University of Chicago Press, 1950.

_____. "The Curriculum: Then and Now." Proceedings of the 1956 Invitational Conference on Testing Problems. Princeton, NJ: Educational Testing Service, 1957.

_____. "Modern Aspects of Evaluation." California Journal of Secondary Education, 29 (1954), 410-412.

Washburn, Barbara P., and Herrscher, Barton R. "The NIMH Project Definition of Individualized Instruction," NIMH Project, Fall 1974, University of Texas, Austin, Texas. (Available upon request.)

Washburn, Barbara P. Implementing Personalized Instruction: A Systematic Approach. Dubuque, Iowa: Kendall/Hunt Publishing Company, 1975.

SECTION IV

METHODS AND PROCEDURES

Part C: Description of Composite Counseling Intervention, Training and Measurement

Training

Oscar G. Mink, a certified psychologist, Reality Therapist and director of this project, personally condicted training in the strategies of composite counseling used in the counseling treatment cells. The workshop syllabus that was used is available, see appendix E.

Schools 1 and 2 in the counseling treatment cells worked with Dr. Mink in an intensive week-long workshop on Reality Therapy and composite counseling strategies. One of these two provided training for their counselors at a second workshop. A third school (School 7) received their training in four weekend workshops and one three-day workshop. All of these workshops were conducted in the fall of 1974. An outline of the program for the workshop is in the syllabus. A fourth school (School 9) was trained with a series of two-day workshops for both their counselors and instructors.

All workshops were intensive. Sessions began at 9 a.m. and concluded at 4:30 p.m. and informal discussion continued through coffee breaks and meals. Instruction consisted of didactics, films, audio tapes and role playing. Each participant was required to demonstrate competency in the use of the composite counseling strategies (including Reality Therapy). The articles "Counseling for Internality" and "Reality Therapy in Learning Groups" have more complete descriptions of the counseling techniques used. See appendix E.

School 3 chose to use its student peer counselors to incorporate the principles of Reality Therapy into the counseling of disadvantaged students. This was done because its counselors do not have continuing contact with all of the students in Developmental Studies and disadvantaged students seem to be more willing to talk to peers than they are to counselors whom they might see as authority figures. The peer counseling program is an integral part of the Developmental Studies program, and each of the Developmental Studies classes has a peer counselor who serves as an instructor aide and counselor for the students in the class. Peer counselors are used particularly to work with students who have trouble seeing the value of school and of regular college attendance. These students many times need help in career choice and in planning their academic programs, and peer counselors are very effective in helping students in these areas.

Peer counselors were selected who had already completed a semester of training in student-to-student counseling and who were currently enrolled in a leadership behavior class. A very experienced counselor and director of the peer counseling program gave the peer counselors additional training in Reality Therapy principles as part of the curriculum of the leadership course. She was a participant at the summer institute for Teachers of the Disadvantaged directed by Dr. John Roueche at the University of Texas at Austin in 1973. During the institute she received instruction and training in Reality Therapy from Drs. Barbara Washburn and Oscar Mink. She is a full time instructor/counselor in Develop-

mental Studies division and has directed the peer counseling program for the past four years.

Ten hour training sessions were given the peer counselors, including lectures and demonstrations of the methods and techniques of Reality Therapy.

Extensive role playing situations were set up and critiqued. Throughout the semester there was a continuing discussion and follow-up activities so that the student counselors could become more effective using the counseling techniques.

Each peer counselor selected two students in Developmental Studies to use specifically Reality Therapy in dealing with problems that the students might have. The peer counselors also used the principles of Reality Therapy when it was appropriate with other students in Developmental Studies.

Tapes were not used to record the counseling sessions by the peer counselors because they did not have private offices and the logistics of recording made it impossible to do so.

Measurement

It was considered important to measure the degree of implementation of the composite counseling strategy. Otherwise, we could not say with certainty that the counselors in different cells were in fact using different approaches. Therefore, each counselor in the two experimental counseling cells was evaluated for ability to implement the strategies of the approach in which they had been trained by project personnel. The evaluation was conducted at four levels (see Appendix D for rating forms):

1. Counselor self-appraisal (see Table 1).
2. Self-evaluation by the counselor of each counseling session. (Record of counseling contacts, contracts, and a process checklist.)
3. Student evaluation of the counseling experience.
4. Professional evaluation of reality therapy.

Each of these levels will be described below.

Self-Appraisal and Self-Evaluation

First, it was necessary to demonstrate that individual differences in counselor competency would not confound the results. Therefore, each counselor in the participating schools (regardless of which cell they were in) was requested to complete a self-appraisal form at the onset of the academic year. These results were compared by cell to assure a comparable level of skills across treatment groups. See Table 1. All coun-

selors saw themselves as proficient in interpersonal skills as measured by the "Self-Appraisal" scale. This scale was based upon Carl Roger's "Characteristics of the Helping Relationship" (Rogers, 1961). Since School 3 and the two nursing programs did not use "counselors" in the traditional sense, we received no ratings from them.

In addition, two other self-evaluation forms were sent to counselors in the two experimental counseling cells. These forms were designed:

(a) to remind the counselors periodically of specific behaviors expected of them in using the new approach. (This was a process checklist which was a duplicate of the form used by the professional evaluators. All counselors saw themselves following the process correctly.)

(b) to tabulate the frequency with which the counselees implemented specific plans made during the counseling sessions.

Student Evaluation

At the conclusion of the academic year, students were asked to evaluate the short- and long-term effects of their counseling experience. Their appraisal forms were grouped by counselor as well as by school to check both counselor competency and possible school differences. (See Table 2). All schools involved in the experimental counseling cells returned student evaluation forms with the exception of School 9 which received an independent evaluation.

Schools 4 and 5 returned student self-evaluations. These schools were not in the experimental counseling cells. As can be seen in Table 2, students in these control or comparison schools were about as satisfied with the counseling which they received as those students in the experimental schools. Hence, suggesting that special locus of control counseling techniques are viewed as favorably by recipients as more standard techniques.

Professional Evaluation

The principal strength of the counseling program at School 9 is the degree of intensive involvement achieved by the counselors with the basic studies students and the Advanced Education Program students. They spent a great deal of time together in various social and recreational settings, starting off in the fall (of 1974) with a barbeque and continuing with similar activities throughout the year. Another basic strength of the counseling program has to do with a number of contacts made with the students in the program, and the action orientation nature of the counseling contact. At least one of the three contacts with students led to some kind of commitment or contractual arrangement. Many of these took form of immediate action steps. For example, the counselor will say to the student, "Is there any reason why we can't go to the library now?" The student says, "No." They go to the library together and the counselor will get the student involved in whatever type of library work needs to be gotten. Students were monitored closely. If students were

absent from a class, the counselors would call the student as soon as they were aware of the absence. If a make-up test had to be taken, the counselors followed through to schedule the test as soon as possible after the test had been missed. They concentrated on getting the students to make commitments. When an appointment was made, his name was written on the counselor's calendar so the student could see that a specific period of time for them has been set aside for them. The counselors verified by telephone or personal contact all absences. They discussed with students the students' responsibility for program involvement: what it meant to be a student in the program and what the norms of the program were right at the very beginning of the term. Students were involved with selected projects where they could help other people such as going to rest homes, juvenile centers, and other places where they provided direct human service. Students were committed to surveys and other tasks. Counselors also worked with the students' tutors in helping them to develop their skills in interpersonal relationships and learning how to apply basic counseling techniques when they're working with their tutees. This very concrete action-oriented aspect of counseling added a very powerful and strong dimension to the counseling program.

Each counselor in the experimental counseling cells (except School 9) was required to tape record four counseling sessions. The four taping weeks were specified to insure uniformity of time samples. The best tape was selected for each counselor, based on the counselor's

self-rating of that tape. The rationale for using the best tape was to see what level of competency the counselor was able to attain at his or her best these tapes were rated blind by a counseling psychologist at the Reality Therapy Institute in Los Angeles and also rated by Dr. Mink. It had been predetermined that students of any counselor who failed to receive a satisfactory rating would be considered as a separate group in the final data analysis.

It is recognized that there are numerous variables affecting counselor effectiveness which cannot be controlled for completely in a field study of this type. Therefore, it was necessary to assume that the counselor evaluation battery would be sufficient to ascertain possible counselor differences.

Summary of the Composite Counseling Intervention, Measurement and Evaluation

We took three general approaches to appraising the suitability of counseling being delivered to students in the experimental cell and the comparibility of the counselors across the schools (experimental vs. control cells). We asked the counselors to appraise themselves on characteristics of the helping relationship which relates primarily to their interpersonal skills and their communication skills and found that there was very little variation between schools. Neither variation was either behaviorally or statisfically significant. In addition, we looked at counselor's evaluation of their own counseling session, behavioral indicators (i.e. the number of contracts made and kept by students), and process indicators using both the counselor's self-evaluation on a process checklist as well as the expert opinion of outside evaluators listening to tapes and using the same process checklist. Results of these efforts at evaluating the counseling process indicate to the investigators that the counseling process met the theoretical standards. The evaluation processes used were far from perfect, being affected somewhat by the lack of response from some individuals and some imcompleteness in the data available. Nevertheless, the results that are available indicate that the counseling treatment was indeed a bonafide treatment and that it did differ in nature from the generalized counseling approaches being delivered in the comparison school.

In addition to the evaluation forms utilized, two nationally recognized individuals in the area of Reality Therapy and Composite Counseling reviewed tapes made by the counselors in the experimental cells. Each counselor was asked to privide four 30 minute tape segments. The reviewer selected tapes and rated the tapes on the degree to which the counselors demonstrated proficiency either in Reality Therapy as a process or in some special composite counseling technique. When all tapes were evaluated the overall ratings on all tapes approached an average of 4.8 on a 5 point scale. In addition, the counselors' self-evaluation process checklist was reviewed while the tape was replayed to verify the accuracy of self-appraisal. The tape ratings were highly consistent between the two raters, variations occurring only on the counselors from School 7. There one of the experts was rating the schools only on the use of proficiency of the Reality Therapy process model and the second was listening to both Reality Therapy process and composite counseling strategies. At School 7 there were three individuals who were not using Reality Therapy process on the tapes that were received. However they were using locus of control shift (composite counseling) strategies. The across-the-board ratings then, on all the tapes, came within two tenths of a point on a 5 point scale of being perfect ratings on the process being utilized.

Self Appraisal Ratings (ranging from low to high, 1 - 6) for Counselors at (5) Community Colleges (designated as (1) to (10)).

Note: School 3 and the two nursing programs have no ratings.

* indicates colleges for which scale values are institutional averages of all counselors at the college:
School 6: 4 counselors
School 7: 8 counselors
School 8: 19 counselors
School 9: 3 counselors
Scale values for the remainder of colleges represent ratings of a single counselor.

Figure 1: "How authentic am I? Am I fully aware, congruent in myself?"

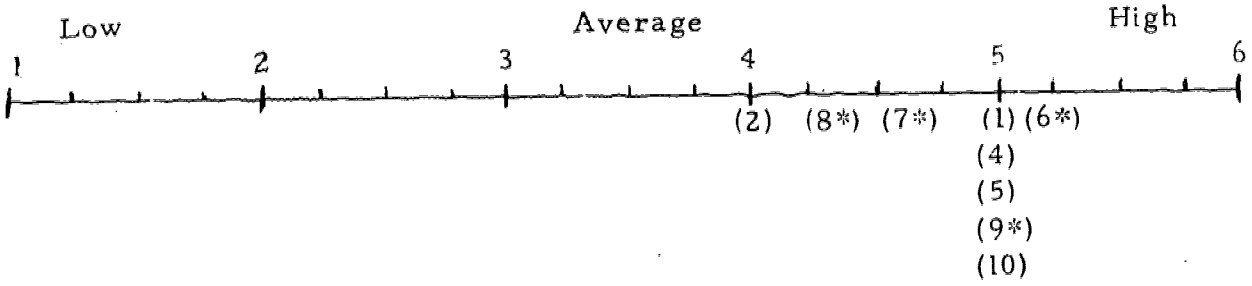


Figure 2: "How [illegible] ve am I? Do I communicate unambiguously to others?"

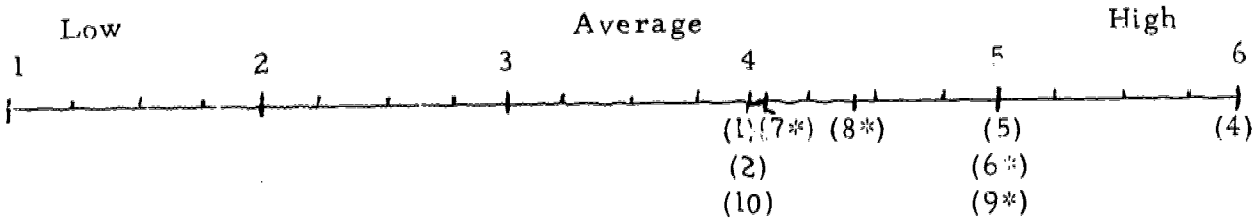


Figure 3: "How positive am I im my warmth, caring, respect for the other members?"

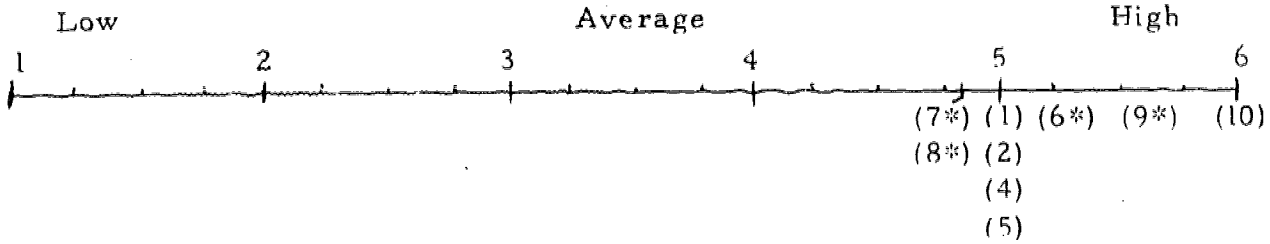


Figure 4: "Am I strong enough to be separate, respecting my own needs and feelings?"

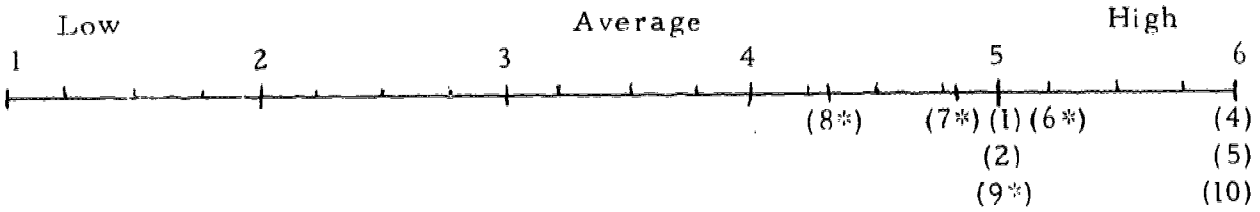


Figure 5: "Am I secure enough to permit others their full separateness?"

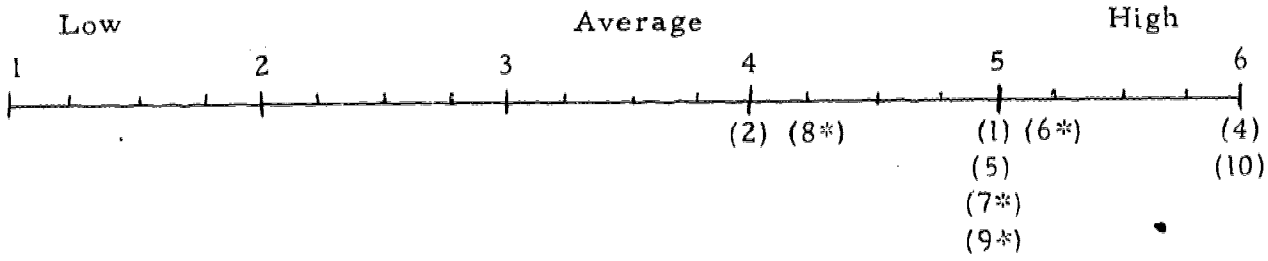


Figure 6: "How fully can I enter into the private worlds of others, sensing their meanings and feelings with no desire to judge, to evaluate, to praise, to criticize, to explain or to alter them?"

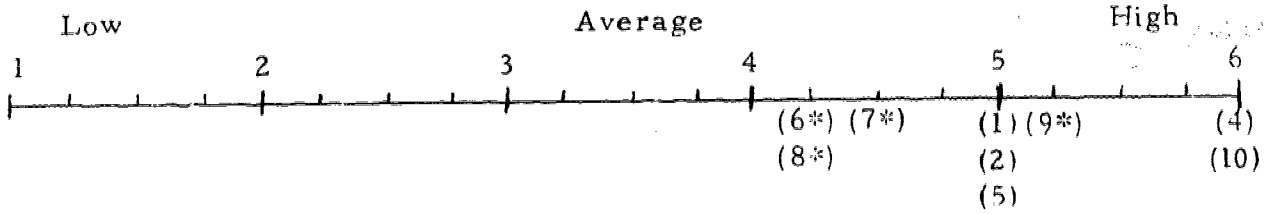


Figure 7: "Can I relate so that the others feel me to be in no way a threat and so that they become less fearful of external evaluation from anyone?"

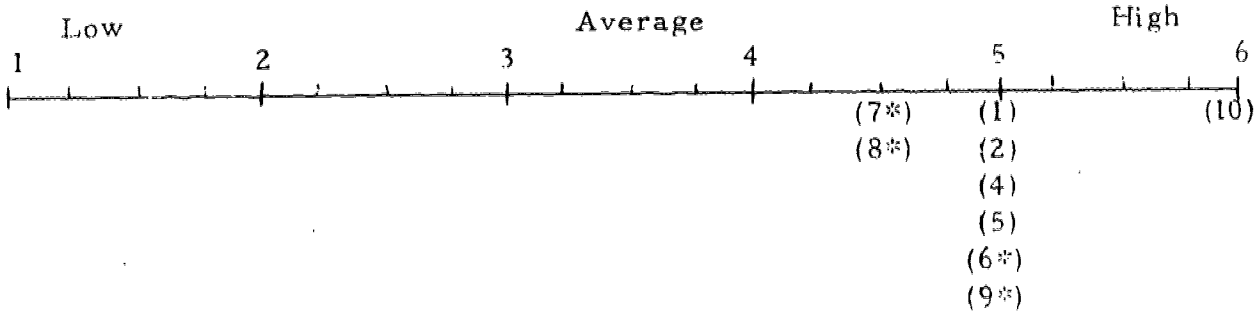


Figure 8: "Do I encounter others as <u>becoming</u>, rather than as fixed (not by the past, to be appraised, or diagnosed)?"

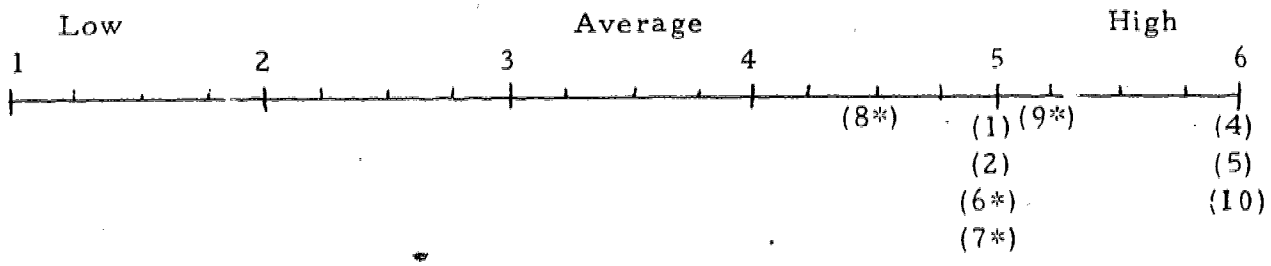


Figure 9: "How clearly is my own self-image one of change, development, growth, emergence?"

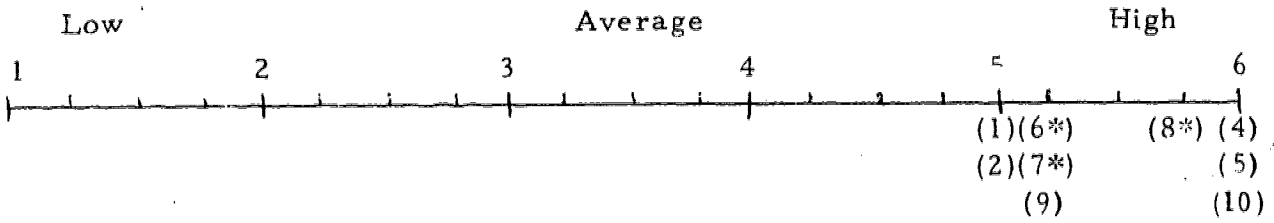


Table IV-C-2

SUMMARY OF STUDENTS' EVALUATION OF COUNSELING

1. How satisfied were you with the help you received in counseling?

School	1	2	3	4	5	7	
	55	30	24	23	10	40	Very satisfied
	27	26	30	29	11	41	Generally satisfied
	0	4	9	10	3	6	Somewhat disappointed
	0	0	[illegible]	9	2	2	Very disappointed
Total N=	82	60	68	71	26	89	

2. To what extent did counseling [illegible] you a feeling of self-confidence or improve your opinion of yourself?

School	1	2	3	4	5	7	
	8	8	11	5	1	3	Greatly increased my doubts
	2	5	17	13	2	6	Given me some doubts
	50	36	27	37	15	67	Increased somewhat my self-confidence
	22	11	9	12	8	9	Greatly Increased my self-confidence
Total N=	82	60	64	67	26	85	

3. How important do you consider counseling to have been in your overall happiness or adjustment?

School	1	2	3	4	5	7	
	1	3	6	10	2	5	Of no value at all
	6	7	11	18	2	21	Mostly unimportant
	38	32	30	25	8	49	Generally important
	37	18	19	17	14	12	Very important
Total N=	82	60	66	70	26	87	

4. How helpful was counseling in making you awarenof your talents and abilities in setting some goals for the future?

School	1	2	3	4	5	7	
	28	18	21	14	14	17	Extremely helpful
	44	32	22	25	10	51	Somewhat helpful
	7	5	10	20	1	14	Of little help
	1	5	13	9	1	6	Of no help at all
Total N=	80	60	66	68	26	88	

5. As a result of counseli ng, do you feel that your relationships with peop!e have improved?

School	1	2	3	4	5	7	
	0	4	9	17	4	2	Not at all
	9	6	15	7	3	9	Very little
	47	30	20	4	10	43	Somewhat
	25	20	23	9	9	34	A great deal
Total N=	81	60	67	67	26	88	

6. Did counseling make you more optimistic about your future?

School	1	2	3	4	5	7	
	33	19	15	10	12	16	Much more optimistic
	35	35	27	26	10	44	A little more optimistic
	12	6	18	29	3	28	No difference in optimism
	2	0	5	3	1	0	Less optimistic
Total N=	82	60	65	68	26	88	

7. As a result of counseling, do you feel you have more control over the direction of your life or over the events in your life?

School	1	2	3	4	5	7	
	26	15	13	9	4	9	A lot more control
	41	31	34	24	17	43	More control than before
	13	14	15	34	5	35	No change in control
	0	0	5	0	0	1	Less control
Total N=	80	60	67	67	26	88	

8. Do you feel counseling was useful or practical to you?

School	1	2	3	4	5	7	
	0	2	8	6	1	5	Definitely not
	5	16	9	21	5	25	A little
	23	19	25	22	8	40	In some ways
	53	23	25	20	12	19	Very useful and practical
Total N=	81	60	67	69	26	89	

9. Were you able to discuss personal problems in counseling?

School	1	2	3	4	5	7	
	8	6	18	33	3	8	Never
	11	7	12	10	5	21	Seldom
	44	34	27	14	10	35	Sometimes
	18	13	10	10	8	23	A great deal
Total N=	81	60	67	67	26	87	

10. Was counseling helpful to you in solving your personal (including academic) problems?

School	1	2	3	4	5	7	
		22	18	16	9	13	Very helpful
	44	32	28	22	13	56	Somewhat helpful
	2	1	9	16	2	12	Not very helpful
	1	5	12	14	2	7	Of no help at all
Total N=	79	60	67	68	26	88	

REFERENCES (Section IV-C)

Rogers, Carl. "The Characteristics of a Helping Relationship". In On Becoming a Person. Boston: Houghton Mifflin, 1961.

SECTION IV

METHODS AND PROCEDURES

Part D: School Descriptions (Narrative Form)

COMMUNITY COLLEGE 1

1. Organizational structure of the program:

   The Chairperson of the Developmental Studies Department reports to the Chairperson of the Division of Humanities and Social Sciences. At this time, four instructors report to the Department Chairperson.

2. Method of assigning instructors to program:

   Instructors are employed specifically to teach in the developmental studies program. They may and do teach courses outside the Developmental Studies Department as time permits.

3. Grading practices and policies:

   Grades given are A, B, C, D, and F. The "I" is available under certain circumstances.

4. Placement criteria for entering development work and how the students are identified:

   Scores from the Nelson-Denny Reading Test and an in-house writing test are used to determine the desirability of developmental courses.

5. Program objectives:

   a. To involve students in a quality general educational experience.

   b. To provide the opportunity for students who failed in other programs to get a second chance.

6. Subject areas in the program:

Psychology	Anthropology
Biology	Social Problems
Communications	Career Planning
Fine Arts	

   All the above courses are transferable and for credit, except for the Career Planning course which is not always transferable.

7. Instructional methods and strategies utilized:

Lecture, supervised independent study, media, programmed instruction (particularly in basic skills), group discussion, interaction games, field trips, etc., are used.

8. Counseling methods and strategies utilized:

Reality therapy and other techniques are used.

9. Supplementary services to program:

None.

10. Qualifications necessary for entering regular college programs or credit courses:

None, unless the student places out of the Communications course. In this case, students must meet specific criteria prior to entry into other English courses such as composition or literature, etc.

11. Description of any institutional evaluation of the developmental program:

None.

12. Demographic data such as race, ethnic make-up, etc.:

See Table IV-D-1.

COMMUNITY COLLEGE 2

1. Organizational structure of the program:

   Vertical Team Chairpersons report to the Chairperson of the General Studies Division, who reports to the Dean of Instruction.

2. Method of assigning instructors to program:

   Instructors are hired specifically for the program or assigned on a volunteer basis.

3. Grading practices and policies:

   Grades given are A, B, C, D, F, I, W (Approved withdrawal), WF (Withdrawal failing), Audit. The grade of "WF" is computed into a student's grade point average in the same way that an "F" is computed. An "I" must be made up 30 days after the beginning of the next semester or it automatically becomes an "F."

4. Placement criteria for entering development work and/or how the students are identified:

   During an interview with a counselor prior to enrollment, students are advised, but not required, to enroll in the program. The criteria used to determine a student's eligibility for the developmental work may include one or more of the following:

   a. An American College Test (ACT) score of 13.0 or below.

   b. Evidence of minimal academic success in high school.

   c. Undecided major.

5. Program objectives:

   a. To assist the student in developing group relationships within the college environment.

   b. To help the student become more aware of his community, its problems and resources.

   c. To assist the student in solving his financial problems while he is attending school.

5. Continued.

   d. To increase the duration of the student's involvement in college experiences.

   e. To help the student cope with his personal and academic problems.

   f. To provide a curriculum which is exciting and different from his high school experience in education.

   g. To assist the student realistically assessing his vocational objectives so that they are commensurate with his interests, abilities, and achievement.

   h. To improve the student's chances of achieving academic success.

   i. To assist the student in developing basic communication skills.

   j. To assist the student in developing a positive and realistic self concept.

6. Subject areas in the program:

Reading	Natural Science
Communication	Humanities
Social Sciences	Career Planning
Personality Foundations	

   All courses carry full institutional credit and count toward the total number of hours necessary for a degree.

7. Instructional methods and strategies utilized:

   Interdisciplinary teaching teams, "blocking" of students, individualized instruction, core curriculum, behavioral objectives, mediated packages, small group instruction, field trips, etc. are utilized.

8. Counseling methods and strategies utilized:

   The primary counseling contact comes from the Personality Foundations course. The student is the focal point of the course. Who he is and what his relationship is to the school, home, and society are integral parts of the course. Although each student may see the counselor on an individual basis, each student participates in a group counseling session for one hour each week. The groups are structured initially with a series of exercises designed to promote involvement among group members. Then, the counselor changes the group structure so

8. Continued.

that it becomes a problem solving group using the principles of reality therapy.

9. Supplementary services to program:

Peer counseling and peer teaching are available.

10. Qualifications necessary for entering regular college programs or credit courses:

None. The program is voluntary and is not a prerequisite for other programs.

11. Description of any institutional evaluation of the developmental program:

Staff members have evaluated themselves and the program since its inception in 1967. In addition to student evaluations of the individual instructors and courses, student attrition rates are computed, data on drop-outs is compiled, and data on grade point averages and semester hours earned is computed. A yearly report is then produced and made available to the institution as well as to professionals in the field.

12. Demographic data such as race, ethnic make-up, etc.:

See Table IV-D-2.

COMMUNITY COLLEGE 3

1. Organizational structure of the program:

   The Chairperson of the Division of Developmental Studies Division reports to the Dean of Instruction and supervises faculty and para-professional personnel in several areas.

2. Method of assigning instructors to program:

   Instructors are hired specifically to teach in the program.

3. Grading practices and policies.

   Grades given are A, B, C, D, F, I (Incomplete), W (Withdrawal), and P (Progress).

4. Placement criteria for entering development work and/or how the students are identified:

   ACT composite scores of 11 or below are used to encourage the student to enter developmental reading and writing. Where ACT scores are not available, the SCAT verbal section and the Nelson-Denny Reading Test are used. After the use of the Self-Assessment Lab, the decision to enter the developmental program is left entirely to the student.

5. Program objectives:

   a. To remedy skill deficiencies in reading, writing, and math.

   b. To offer seminars to faculty around student problems.

   c. To offer services to any division or department of the college in areas where the skill profile of the developmental studies faculty permits.

6. Subject areas in the program:

Developmental Reading	Advanced Reading
Developmental Math	Human Development
Developmental Writing	

6. Continued.

All courses receive full institutional credit and count toward the total number of hours needed for a degree.

7. Instructional methods and strategies utilized:

Individualized instruction, laboratory settings, and some lectures are utilized.

8. Counseling methods and strategies utilized:

Counseling contacts are developed primarily through counselors teaching Human Development courses.

9. Supplementary services to program:

a. Trained peer counselors and peer tutors.

b. A drop-in writing lab run by paraprofessionals.

c. Reading improvement seminars for students.

10. Qualifications necessary for entering regular college programs or credit courses:

None. The Developmental Studies Program is completely voluntary.

11. Description of any institutional evaluation of the developmental program:

Follow-up questionnaires are sent to students. The faculty is evaluated by the Division Chairperson and the Dean of Instruction. Students evaluate the faculty using the Purdue Rating Scale. Each faculty member evaluates the Chairperson of the Division of Developmental Studies.

12. Demographic data such as race, ethnic make-up, etc.

See Table IV-D-3.

COMMUNITY COLLEGE 4

1. Organizational structure of the program:

   The Chairperson of the Division of Developmental Studies reports to the Dean of Instruction. Instructors in this division all report to the division chairperson.

2. Method of assigning instructors to program:

   Personnel are hired specifically to teach in the program.

3. Grading practices and policies:

   Grades given are A, B, C, D, F, W (Withdraw), I (Incomplete, work in progress), CR (credit). A student receiving an "I" must complete the course(s) within 90 days or receive a "W."

4. Placement criteria for entering development work and/or how the students are identified:

   Students are counseled into the program on the basis of high school record and academic background as well as college placement tests. The final decision is left to the student.

5. Program objectives:

   The primary objective is to strengthen students' skill levels in reading, writing, and math.

6. Subject areas in the program:

   Reading
   Writing
   Math (pre-algebra, elementary algebra, intermediate algebra)
   Human Development

7. Instructional methods and strategies utilized:

   A laboratory approach with a wide variety of instructional methods is utilized. All courses utilize pre-assessment, behavioral objectives, objective-based learning activities and post-assessment.

8. Counseling methods and strategies utilized:

All counseling services are available to all students. The human development course serves as a vehicle for counseling contacts. In addition, individual counseling is available upon request.

9. Supplementary services to program:

Peer tutoring is available.

10. Qualifications necessary for entering regular college programs or credit courses:

None. Students may be simultaneously enrolled in developmental courses and curriculum courses of their choice.

11. Description of any institutional evaluation of the developmental program:

Some follow-up studies in math have been done to date. Evaluation formats are currently being established for other elements of the program.

12. Demographic data such as race, ethnic make-up, etc.:

See Table IV-D-4.

COMMUNITY COLLEGE 5

1. Organizational structure of the program:

   The Chairperson of the Developmental Studies Division reports to the Dean of Instruction and supervises personnel in the following areas:

   Developmental Reading Developmental Math Developmental Writing

   The program also operates a "Center for Independent Study" which is open to any student.

2. Method of assigning instructors to program:

   All personnel are hired specifically to teach in developmental studies.

3. Grading practices and policies.

   Grades given are A, B, C, In-progress, Incomplete, and Withdrawal.

4. Placement criteria for entering development work and/or how the students are identified:

   Students are made aware of their need through counseling services, test feedback, referrals from faculty and staff, etc. A combination of in-house and standardized tests are used to provide feedback to students, who are then free to decide about program entry.

5. Program objectives:

   a. To refresh basic skills - applies particularly to those who have been away from school for some time.

   b. To give the student continuing his education the opportunity to strengthen his skills.

6. Subject areas in the program:

   Developmental Reading, English and Math are included in the program. All courses carry full institutional credit toward a degree.

7. Instructional methods and strategies utilized:

The diagnostic and prescriptive program is entirely individualized and has media support.

8. Counseling methods and strategies used:

Students have access to all college counseling services. In addition, college counselors assigned to the Division as well as an intern from an area university are available. A variety of group and individual counseling methods are used

9. Supplementary services to program:

Peer tutoring and the Center for Independent Study are available.

10. Qualifications necessary for entering regular college programs or credit courses:

None. Students matriculate in the Division of Developmental Studies by desire not by requirement. Students may exit at any time and may carry any combination of developmental and non-developmental courses desired.

11. Description of any institutional evaluation of the developmental program:

Preliminary follow-up study shows positive direction. The Director indicates the research on the program is still in the early stages of development and is not yet satisfactory.

12. Demographic data such as race, ethnic make-up, etc.:

See Table IV-D-5.

COMMUNITY COLLEGE 6

1. Organizational structure of the program:

   The Chairperson of Division of Counseling and Human Development (incorporating developmental studies) reports to the Dean of Student Personnel and supervises personnel in the following areas:

   Remedial Reading (institutional credit)
   Remedial Writing (institutional credit)
   Human Development (institutional credit)

2. Method of assigning instructors to program:

   All personnel are hired specifically to teach in the developmental studies area.

3. Grading practices and policies:

   The approach to grading is contractual and nonpunitive. Grades given are A, B, and C.

4. Placement criteria for entering development work and/or how the students are identified:

   All students scoring below 15 on the ACT composite are considered potential candidates for developmental courses. An interview with a counselor is required, during which the option of developmental courses is discussed.

5. Program objectives:

   To assist students in assessing career and life goals and to help them develop a program to achieve those goals. The process begins with the student's statement of his perceived needs in the above mentioned areas.

6. Subject areas in the program:

   Remedial Reading Remedial Writing Human Development

   These courses carry institutional credit and count toward the total number of hours needed for graduation. Remedial math is available through Division of Math and Science.

7. Instructional methods and strategies utilized:

Self-paced, individualized, and laboratory-oriented instruction are utilized.

8. Counseling methods and strategies utilized:

The counseling center provides contractual and eclectic counseling for developmental studies.

9. Supplementary services to program:

None.

10. Qualifications necessary for entering regular college programs or credit courses:

Student must meet the entry level skills of a given department. These skills are usually determined via standardized testing.

11. Description of any institutional evaluation of the developmental program:

Bi-annual report includes such items as student characteristics, evaluation of instructional methodologies used, student attitudes assessment, pre- and post-testing, etc.

12. Demographic data such as race, ethnic make-up, etc:

See Table IV-D-6.

1. Organizational structure of the program:

   Developmental courses are taught in the departments of English, math, and psychology. Instructors report to the respective departmental chairpersons.

2. Method of assigning instructors to program:

   Instructors are volunteers with the exception of the reading instructors, who teach both developmental and non-developmental students.

3. Grading practices and policies:

   Grades given are A, B, C, D, I, F, W (Official withdrawal before end of first 12 weeks), WF (Withdrawal while failing during 7th through 12th week), and CR (Advanced standing - credit by examination).

4. Placement criteria for entering development work and/or how the students are identified:

   Upon admission to the college, each student has an interview with a counselor. On the basis of ACT scores below the 25th percentile and high school transcripts, the counselor may recommend developmental courses. The student is enrolled only in those developmental courses that the counselor feels are needed and that the student is willing to take.

5. Program objectives:

   Since there is no self contained developmental program at the college, there are no program objectives.

6. Subject areas in the program:

Basic English	Orientation
Basic Math	Personal Development
College Reading	

7. Instructional methods and strategies utilized:

   Primarily lecture with individualized instruction in reading is used.

8. Counseling methods and strategies utilized:

   Counseling services are delivered to all developmental students through

8. Continued.

the "Orientation and Personal Development" course which is taught by the counseling staff. Certain sections of the orientation course contain those students who are in developmental courses. Counselors structure the course into once-a-week, two-hour group problem-solving sessions of 10 to 15 students. The counselors utilize the principles of reality therapy in the groups as the means for assisting students to solve any personal, social, vocational, and/or academic problems brought to the group.

9. Supplementary services to program:

a. Open writing lab.

b. Tutoring available to all students through the honor society.

10. Qualifications necessary for entering regular college programs or credit courses:

Students may be simultaneously enrolled in the curriculum of their choice while taking developmental courses. Students qualifying for developmental courses, as determined by the counselors, must complete these courses prior to entry into uppoer level courses in the department.

11. Description of any institutional evaluation of the developmental program:

To date, no evaluative data has been collected on the developmental courses.

12. Demographic data such as race, ethnic make-up, etc.:

See Table IV-D-7.

COMMUNITY COLLEGE 8

1. Organizational structure of the program:

   The departments of English, math, reading, psychology, humanities, natural sciences, sociology, and history each offer one or more developmental courses. Instructors are supervised by their respective department chairpersons.

2. Method of assigning instructors to program:

   Instructors are asked to volunteer for developmental courses. Others are assigned if there are not enough volunteers.

3. Grading practices and policies:

   Grades given are A, B, C, D, F, I (Incomplete), IP (In progress), WP (Withdrew passing), WF (Withdrew), NC (Non-credit).

4. Placement criteria for entering development work and/or how the students are identified:

   Counselors make recommendations of certain developmental courses on the basis of one or more of the following factors: weak high school grades or GED score, or composite ACT score below 15, or total SAT below 700, and/or scores on the Nelson-Denny Reading Test below the 25th percentile. The student ultimately decides whether to enter the program or not.

5. Program objectives:

   a. To change negative attitudes about learning to positive attitudes of wanting to learn.

   b. To develop academic skills that will allow students to compete in regular college level courses.

   c. To develop an adequate background for successful performance in vocational or technical fields.

   d. To develop skills that will allow students to compete successfully on the job market.

6. Subject areas in the program:

Basic English	Humanities
Introductory and Intermediate Algebra	Natural Science
Basic Reading	Sociology
Psychology	History

7. Instructional methods and strategies utilized:

Instruction is primarily by lecture and discussion.

8. Counseling methods and strategies utilized:

Counseling services are offered primarily through the course "Personal and Social Adjustment" taught by regular college counselors.

9. Supplementary services to program:

Tutoring by peers and teachers is available.

10. Qualifications necessary for entering regular college programs or credit courses:

Generally, a C average is required, but this is determined on an individual basis in consultation with the student's assigned counselor.

11. Description of any institutional evaluation of the developmental program:

Several attrition studies have been conducted beginning in 1965. A fifth follow-up study is presently underway that will follow developmental students through their transfer program in a senior institution or their first few years of employment.

12. Demographic data such as race, ethnic, make-up, etc.:

See Table IV-D-8.

COMMUNITY COLLEGE 9

1. Organizational structure of the program:

   The Chairperson of the Coordinated Bilingual Studies Department reports to the Dean of Instruction. In addition, he or she prepares proposals and writes and controls budgets.

2. Method of assigning instructors to program:

   Instructors are carefully screened as to their attitudes with regard to working with developmental students. Those who are caring toward students and who wish to work with developmental students are sought.

3. Grading practices and policies:

   Grades given are A, B, C, D, and W. Students can withdraw up to two weeks prior to the end of the term without penalty.

4. Placement criteria for entering development work and/or how the students are identified:

   Students are identified by SAT scores. Those scoring less than 10 on the SAT have to take reading; less than 13 on English or 10 on math tests requires remedial work. Students are recruited from GED classes and high schools.

5. Program objectives:

   a. To promote high retention and program completion.

   b. To promote academic achievement and success in the program and beyond.

   c. To develop internal control expectancies through successful development of competencies in both Spanish and English.

6. Subject areas in the program:

Spanish	English
Human Development	Psychology
Science	Reading

   Math is available through the math department as a service to the program.

7. Instructional methods and strategies utilized:

   Small and large groups, tutoring, some prescription, and some individualized instruction are utilized.

8. Counseling methods and strategies utilized:

   Reality therapy and group counseling are used.

9. Supplementary services to program:

   All personnel in the department act as counselors. Tutoring is available. Special psychology class projects produce a limited amount of personal and academic counseling.

10. Qualifications necessary for entering regular college programs or credit courses:

    Satisfactory completion of developmental courses is required for students to enter upper level courses in the respective departments.

11. Description of any institutional evaluation of the developmental program:

    The Southern Association of Colleges and Secondary Schools conducts an annual evaluation on behalf of the federal funding agency supporting the program. In addition, outside consultants have been brought in to do evaluations.

    Both students and department chairpersons evaluate instructors. Instructors in turn evaluate their department chairpersons. Student comments on evaluation forms have yielded good information for making changes. They also sit in on staff meetings and are asked to give feedback on departmental plans.

12. Demographic data such as race, ethnic make-up, etc.:

    See Table IV-D-9.

COMMUNITY COLLEGE 9
Nursing Program

1. Organizational structure of the program:

The Director of the Nursing Program reports to the Coordinator of Allied Health who reports to the Dean of Occupational and Continuing Education. In addition he or she prepares the budgets and proposes curriculum changes.

2. Method of assigning instructors to program:

Instructors either apply directly to the nursing program or are recruited by a search committee. They must meet degree requirements and have clinical experience, and are expected to have confidence in nursing as a practitioner.

3. Grading practices and policies:

In the 50% of the curriculum pertaining to nursing courses a grade of C is required. Students may withdraw up to two weeks prior to the end of the term with no penalty.

4. Placement criteria for entering students or - admissions criteria:

The nursing program offers a career ladder program which includes a three exit point curriculum.

1) After one semester a student may exit as a health assistant (equivalent to a nurse's aide).
- entry level required - 10th grade

2) After one calendar year a student may exit as a vocational nurse and write the state examination to become an LVN.
- entry level - 10th grade

3) After two calendar years a student may exit as an associate degree nurse and write the state examination for an R.N.
- entry level - H.S. degree or GED.

5. Program objectives:

To educate a safe and competent nursing practitioner.

6. Subject areas in the program:

Natural sciences
Social sciences
Behavioral sciences
Anatomy
Physiology

The other approximately 50% of the coursework includes nursing courses.

7. Instructional methods and strategies utilized:

Modules, small group discussions

8. Counseling utilized:

Instructors counsel students informally many times during the semester. There are two required counseling sessions which must be documented each semester.

9. Supplementary services to program:

Regular community college supplementary services available.

10. Qualifications necessary for entering regular college programs or credit courses:

None. Nursing is a regular college program.

11. Description of evaluation:

a) Internal evaluation consists of a curriculum committee of the total nursing faculty, two students and the director of nursing at the local hospital. This evaluation group meets continually throughout the year.

b) A written report is required annually by the State Registered Nurses Board.

c) An annual report is also required by and sent to the National Board for nursing accreditation.

12. Demographic data:

20% - 30% - Male
55% - 60% - financially disadvantaged
85% - Spanish dominate language

See Table I V-D-10.

COMMUNITY COLLEGE 10

1. Organizational structure of the program:

   The Director of Developmental Studies reports to the Associate Dean of Instruction. Reporting to the Director are instructors and laboratory supervisors in math, communications, social science, and reading. Laboratory supervisors supervise lab assistants and work assistants.

2. Method of assigning instructors to program:

   Instructors are assigned according to instructional need.

3. Grading practices and policies:

   Grades given are A, B, C, D, F, I, N and W.

4. Placement criteria for entering development work and/or how the students are identified:

   Students may enter voluntarily or by recommendation of instructor. The program is not required of any student. Instructors recommend students based on standardized test scores and/or initial academic performance.

5. Program objectives:

   a. To prepare students with academic deficiencies for regular college work.

   b. To provide a "booster" environment for students who are having difficulty keeping up.

6. Subject areas in the program:

Math	Social Science
Communications	Reading

7. Instructional methods and strategies utilized:

   An individualized format is utilized.

8. Counseling methods and strategies utilized:

   Counselors from the Counseling Center are used and they do primarily one-on-one counseling. Counselors also teach an orientation class which acts as an additional vehicle for counseling contacts.

9. Supplementary services to program:

   Peer tutoring and peer counseling are available.

10. Qualifications necessary for entering regular college programs or credit courses:

    None. Developmental courses are not prerequisites to other courses.

11. Description of any institutional evaluation of the developmental program:

    None.

12. Demographic data such as race, ethnic make-up, etc.:

    See Table IV-D-11.

COMMUNITY COLLEGE 10
Nursing Program

1. Organizational structure of the program:

   The Director reports to the Associate Dean of Allied Health who reports to the Dean of Instruction. In addition, he or she prepares the budget and proposes curriculum changes.

2. Method of assigning instructors to program.

   After formal application, instructor is interviewed by a committee and hired by director with institutional approval.

3. Grading practices and policies:

   Grades given are A, B, C. Students can withdraw up to two weeks prior to the end of the term without penalty. Students may take an (I) incomplete and have four months to complete the course.

4. Entry level required:

   a) first year requirements
      H.S. degree or GED
      10th grade reading level
      70% on math test
      70% on language test
      an ACT or SAT score (no required minimum)

   b) second year requirements
      12th grade reading level
      80% on math test
      80% on language test
      Successful completion of previous courses of degree plan
      Recommendation of faculty of student

5. Program objectives for 1976:

   1) to implement the career ladder nursing program
   2) to finalize a master plan for evaluation
   3) to devise an advance placement policy
   4) to finalize the nursing courses into individualized instruction packets and work on instructional methods

6. Subject areas in the program:

Psychology	English
Anatomy	Sociology (elec.)
Physiology	Microbiology
Calculations	
Pharmacology	Nursing Courses

7. Description of degree alternatives
Career ladder program:

1) after six weeks the student can exit as a certified nurse's aide
2) after twelve months the student will be able to write the licensing exam for vocational nursing
3) after two years the student will be able to write the licensing exam for R.N.

8. Instructional methods and strategies used

Small groups, modified form of individualized instruction units (written), lecture, audio-visual materials.

9. Counseling methods

Each instructor in the clinical area has 10 students for academic advising.

10. Description of evaluation:

a) National League for Nursing
self-evaluation study.
Accredited December, 1975.

b) Curriculum Committee Evaluation
an ad hoc committee for clinical facilities

c) Students evaluate course and units of instruction

d) Follow-up evaluation of graduates after six months

e) Instructors complete a peer evaluation

f) Instructors and director meet with faculty from the other disciplines who teach nursing students

11. Demographic data:

Class of 1976:	13 males	25 Mexican American
	38 females	24 Anglo
		2 Black

See Table IV-D-12.

SECTION IV

METHODS AND PROCEDURES

Part D: School Descriptions (Chart Form)

PROGRAM OBJECTIVES

Community Colleges	1	2	3	4	5	6	7	8	9	9-N	10	10-N
Involve student in quality general education program	X											
Provide students with second chance at academic success or to boost students having difficulty keeping up	X	X							X		X	
Develop group relationships		X										
Community awareness		X										
Solve financial problems		X										
Involve student in college experience		X										
Vocational and life planning		X				X		X				
Develop basic communication skills		X	X	X	X			X				
Positive and realistic self-concept		X						X	X			
Cope with personal and academic problems and prepare for reg. college work		X									X	
To educate a safe and competent nursing practitioner										X		
To implement career ladder nursing program and advance placement												X
To improve program through evaluation and individual instruction												X

COUNSELING TECHNIQUES AND STRATEGIES USED

Community Colleges	1	2	3	4	5	6	7	8	9	9-N	10	10-N
Reality therapy	X	X					X		X			
Combination of other techniques	X					X[a]				X	X	X
Group counseling		X					X		X			
Human or personal development course			X				X	X				
All counseling services available				X	X						X	

[a] Contractual

QUALIFICATIONS FOR ENTERING REGULAR COLLEGE COURSES

Community College	1	2	3	4	5	6	7	8	9	9-N	10	10-N
None		X	X	X	X					X	X	X
Students free to exit anytime		X	X		X							
Students simultaneously enrolled in courses outside Developmental Studies				X	X		X					
Must complete development courses							X	X[a]	X			
Must meet department requirements	X					X						
Recommendation of counselor								X				

[a] With grade of C.

INSTITUTIONAL EVALUATION

Community College	1	2	3	4	5	6	7	8	9	9-N	10	10-N
Bi-annual report						X						
None	X			X[a]	X[a]		X				X	
Evaluation by staff		X							X	X		X
Evaluation by students		X	X[b]						X	X		X
Computation of student attrition rates		X						X				
Drop-outs computed		X										
GPA computed		X										
Annual report		X							X	X		
Follow-up questionnaire to students			X									X
Faculty evaluation by Dean of Instruction and Division Chairmen			X						X	X[c]		
Chairman evaluated by faculty members			X						X			
Nursing instructors and director meet with faculty from the other disciplines												X
National League for Nursing self-evaluation; Curriculum Committee Eva.												X

[a] In progress

[b] Purdue rating scale

[c] Internal evaluation by faculty, 2 students, and Director of Nursing at local hospital

INSTRUCTIONAL STRATEGIES AND TECHNIQUES USED

Community College	1	2	3	4	5	6	7	8	9	9-N	10	10-N
Lecture	X		X				X	X				X
Independent study, supervised	X											
Media	X	X			X							
Programmed instruction	X									X[a]		
Group discussion	X	X						X	X			
Laboratory			X	X		X						
Interaction games	X											
Field trips	X	X										
Individualized instruction		X	X	X	X	X	X[b]				X	X
Core curriculum		X										
Small groups									X	X		X
Teaching teams		X										
Audio-visual												X

[a] Learning modules [b] In reading only

SUPPLEMENTAL SERVICES

Community College	1	2	3	4	5	6	7	8	9	9-N	10	10-N
None	X					X						
Peer tutoring		X	X	X	X		X	X	X		X	
Peer counseling		X	X						X		X	
Writing lab			X				X					
Reading improvement seminars			X									
Center for Independent Study					X							
Regular community college services available										X		X

GRADING PRACTICES

Community College	1	2	3	4	5	6	7	8	9	9-N	10	10-N
A	X	X	X	X	X	X	X	X	X	X	X	X
B	X	X	X	X	X	X	X	X	X	X	X	X
C	X	X	X	X		X	X	X	X	X	X	X
D	X	X	X	X			X	X			X	
F	X	X	X	X			X	X			X	
I (Incomplete)	X[a]	X	X		X		X	X			X	X
Credit				X	X		X	X[b]				
W (Approved Withdrawal)		X	X	X			X	X	X	X	X	X
W (Failing Withdrawal)		X					X	X				
Audit		X									X[c]	
In Progress			X	X	X			X				

[a]Under certain Circumstances [b]NC - no credit [c]No grade given

PLACEMENT CRITERIA FOR IDENTIFYING STUDENTS

Community College	1	2	3	4	5	6	7	8	9	9-N	10	10-N
Nelson-Denny	X		X					X				
In-house writing test	X											
ACT		X	X			X	X	X				
Low high school grades		X		X			X	X				
Undecided major		X										
SCAT scores			X					X				
Referrals from faculty and staff					X						X[a]	
SAT									X			
Advised to enter program		X	X		X	X	X					
Program has minimum entry requirements										X		X

[a] Or may enter voluntarily

SUBJECTS OFFERED

College	Psychology	Communications	Natural Sciences	Social Sciences	Orientation	Mathematics	Spanish	Nursing Courses
1	Psychology	Communications	Biology	Fine Arts, Anthro., Social Problems Career Planning				
2	Personal Foundations	Communications Reading	Natural Science	Social Sciences Career Planning Humanities				
3	Human Development	Dev. Reading Dev. Writing Advanced Reading				Developmental Math		
4	Human Development	Reading Writing				Pre-algebra Elementary Algebra Intermediate Algebra		
5		Dev. English Dev. Reading				Math		
6	Human Development	Remedial Writing Remedial Reading				Available through Math Division		
7	Personal Development	Basic English College Reading			Orientation	Basic Math		
8	Psychology	Basic English Basic Reading	Natural Science	Sociology History Humanities		Introductory and Intermediate Algebra		
9	Human Development Psychology	English Reading	Science			Available through Math Department	Spanish	
9N	Behavioral Science		Natural Science Anatomy Physiology	Social Science				Nursing Courses
10		Communications Reading		Social Science		Math		
10N	Psychology	English	Anatomy Physiology Microbiology	Sociology (elec.)		Calculations		Nursing Courses

ORGANIZATIONAL STRUCTURE

Community College	1	2	3	4	5	6	7	8	9	9-N	10	10-N
Chairman of Developmental Studies reports to Chairman of Humanities and Social Sciences	X											
Chairman of Developmental Studies reports to Dean of Instruction			X	X	X				X		X	
Chairman of Developmental Studies reports to Chairman of General Studies Division		X										
No specific program; taught through departments							X	X				
Developmental Studies Chairman reports to Dean of Student Personnel						X						
Director of Nursing Program reports to Coordinator of Allied Health (or Associate Dean)										X		X

METHOD OF ASSIGNING INSTRUCTORS TO PROGRAM

Community College	1	2	3	4	5	6	7	8	9	9-N	10	10-N
Employed specifically for developmental studies; teach outside department	X		X									
Employed specifically for developmental studies or volunteer		X		X	X	X		X	X		X	
Instructors in departments volunteer							X					
Employed specifically to teach nursing courses										X		X

SECTION IV

METHODS AND PROCEDURES

Part D: School Descriptions

Tables IV-D-1 to 12: Demographic Data

Table IV-D-1

COMMUNITY COLLEGE 1

Sex Breakdown		
Total Males	76	73.1%
Total Females	27	26.0%
Sex Unknown	1	1.0%
TOTAL	104	100.0%
Age Breakdown		
18-23 yrs.	94	90.4%
24-33 yrs.	7	6.7%
34-45 yrs.	1	1.0%
46-55 yrs.	0	0
55+	0	0
Age Unknown	2	1.9%
TOTAL	104	100.0%
Ethnic Breakdown		
Black	6	5.8%
Anglo	91	87.5%
Chicano	2	1.9%
American Indian	0	0
Oriental	1	1.0%
Other	3	2.9%
Unknown	1	1.0%
TOTAL	104	100.0%

Table IV-D-2

COMMUNITY COLLEGE 2

Sex Breakdown		
Total Males	59	55.1%
Total Females	46	43.0%
Sex Unknown	2	1.9%
TOTAL	107	100.0%
Age Breakdown		
18-23 yrs.	95	88.8%
24-33 yrs.	6	5.6%
34-45 yrs.	2	1.9%
46-55 yrs.	0	0
55+	0	0
Age Unknown	4	3.7%
TOTAL	107	100.0%
Ethnic Breakdown		
Black	39	36.4%
Anglo	54	50.5%
Chicano	5	4.7%
American Indian	0	0
Oriental	1	.9%
Other	1	.9%
Unknown	7	6.5%
TOTAL	107	100.0%

Table IV-D-3

COMMUNITY COLLEGE 3

Sex Breakdown		
Total Males	113	63.1%
Total Females	62	34.6%
Sex Unknown	4	2.2%
TOTAL	179	100.0%
Age Breakdown		
18-23 yrs.	89	49.7%
24-33 yrs.	67	37.4%
34-45 yrs.	15	8.4%
46-55 yrs.	3	1.7%
55+	1	.6%
Age Unknown	4	2.2%
TOTAL	179	100.0%
Ethnic Breakdown		
Black	107	59.8%
Anglo	26	14.5%
Chicano	31	17.3%
American Indian	1	.6%
Oriental	3	1.7%
Other	6	3.4%
Unknown	5	2.8%
TOTAL	179	100.0%

Table IV-D-4

COMMUNITY COLLEGE 4

Sex Breakdown		
Total Males	115	76.2%
Total Females	36	23.8%
Sex Unknown	0	0
TOTAL	151	100.0%
Age Breakdown		
18-23 yrs.	72	47.7%
24-33 yrs.	58	38.4%
34-45 yrs.	16	10.6%
46-55 yrs.	4	2.6%
55+	0	0
Age Unknown	1	.7
TOTAL	151	100.0%
Ethnic Breakdown		
Black	13	8.6%
Anglo	122	80.8%
Chicano	8	5.3%
American Indian	5	3.3%
Oriental	0	0
Other	3	2.0%
Unknown	0	0
TOTAL	151	100.0%

Table IV-D-5

COMMUNITY COLLEGE 5

Sex Breakdown		
Total Males	61	70.1%
Total Females	26	29.9%
Sex Unknown	0	0
TOTAL	87	100.0%
Age Breakdown		
18-23 yrs.	47	54.0%
24-33 yrs.	28	32.2%
34-45 yrs.	8	9.2%
46-55 yrs.	2	2.3%
55+	1	1.1%
Age Unknown	1	1.1%
TOTAL	87	100.0%
Ethnic Breakdown		
Black	23	26.4%
Anglo	56	64.4%
Chicano	2	2.3%
American Indian	2	2.3%
Oriental	0	0
Other	3	3.4%
Unknown	1	1.1%
TOTAL	87	100.0%

Table IV-D-6

COMMUNITY COLLEGE 6

Sex Breakdown		
Total Males	31	41.3%
Total Females	44	58.7%
Sex Unknown	0	0
TOTAL	75	100.0%
Age Breakdown		
18-23 yrs.	51	68.0%
24-33 yrs.	17	22.7%
34-45 yrs.	5	6.7%
46-55 yrs.	1	1.3%
Age Unknown	1	1.3%
TOTAL	75	100.0%
Ethnic Breakdown		
Black	40	53.3%
Anglo	22	29.3%
Chicano	8	10.7%
American Indian	0	0
Oriental	1	1.3%
Other	1	1.3%
Unknown	3	4.0%
TOTAL	75	100.0%

Table IV-D-7

COMMUNITY COLLEGE 7

Sex Breakdown

Total Males	84	51.9%
Total Females	76	46.9%
Sex Unknown	2	1.2%
TOTAL	162	100.0%

Age Breakdown

18-23 yrs.	133	82.1%
24-33 yrs.	16	9.9%
34-45 yrs.	10	6.2%
46-55 yrs.	1	.6%
55+	0	0
Age Unknown	2	1.2%
TOTAL	162	100.0%

Ethnic Breakdown

Black	10	6.2%
Anglo	114	70.4%
Chicano	31	19.1%
American Indian	1	.6%
Oriental	0	0
Other	2	1.2%
Unknown	4	2.5%
TOTAL	162	100.0%

Table IV-D-8

COMMUNITY COLLEGE 8

Sex Breakdown		
Total Males	85	46.4%
Total Females	98	53.6%
Sex Unknown	0	0
TOTAL	183	100.0%
Age Breakdown		
18-23 yrs.	172	94.0%
24-33 yrs.	8	4.4%
34-45 yrs.	2	1.1%
46-55 yrs.	1	.5%
55+	0	0
Age Unknown	0	0
TOTAL	183	100.0%
Ethnic Breakdown		
Black	15	8.2%
Anglo	44	24.0%
Chicano	112	61.2%
American Indian	1	.5%
Oriental	0	0
Other	10	5.5%
Unknown	1	.5%
TOTAL	183	100.0%

Table IV-D-9

COMMUNITY COLLEGE 9

Sex Breakdown		
Total Males	40	48.8%
Total Females	42	51.2%
Sex Unknown	0	0
TOTAL	82	100.0%
Age Breakdown		
18-23 yrs.	77	93.9%
24-33 yrs.	3	3.7%
34-45 yrs.	1	1.2%
46-55 yrs.	1	1.2%
55+	0	0
Age Unknown	0	0
TOTAL	82	100.0%
Ethnic Breakdown		
Black	0	0
Anglo	1	1.2%
Chicano	80	97.6%
American Indian	0	0
Oriental	0	0
Other	1	1.2%
Unknown	0	0
TOTAL	82	100.0%

Table IV-D-10

NURSING PROGRAM OF COMMUNITY COLLEGE 9

Sex Breakdown		
Total Males	17	20.5%
Total Females	65	78.3%
Sex Unknown	1	1.2%
TOTAL	83	100.0%
Age Breakdown		
18-23 yrs.	56	67.5%
24-33 yrs.	19	22.9%
34-45 yrs.	7	8.4
46-55 yrs.	0	0
55+	0	0
Age Unknown	1	1.2%
TOTAL	83	100.0%
Ethnic Breakdown		
Black	0	0
Anglo	10	12.0%
Chicano	71	85.5%
American Indian	0	0
Oriental	0	0
Other	0	0
Unknown	2	2.4%
TOTAL	83	100.0%

Table IV-D-11

COMMUNITY COLLEGE 10

Sex Breakdown		
Total Males	18	47.4%
Total Females	20	52.6%
Sex Unknown	0	0
TOTAL	38	100.0%
Age Breakdown		
18-23 yrs.	21	55.3%
24-33 yrs.	13	34.2%
34-45 yrs.	4	10.5%
46-55 yrs.	0	0
55+	0	0
Age Unknown	0	0
TOTAL	38	100.0%
Ethnic Breakdown		
Black	2	5.3%
Anglo	2	5.3%
Chicano	30	78.9%
American Indian	0	0
Oriental	0	0
Other	4	10.5%
Unknown	0	0
TOTAL	38	100.0%

Table IV-D-12

NURSING PROGRAM OF COMMUNITY COLLEGE 10

Sex Breakdown		
Total Males	11	18.6%
Total Females	48	81.4%
Sex Unknown	0	0
TOTAL	59	100.0%
Age Breakdown		
18-23 yrs.	27	45.8%
24-33 yrs.	16	27.1%
34-45 yrs.	14	23.7%
46-55 yrs.	1	1.7%
55+	1	1.7%
Age Unknown	0	0
TOTAL	59	100.0%
Ethnic Breakdown		
Black	1	1.7%
Anglo	20	33.9%
Chicano	31	52.5%
American Indian	1	1.7%
Oriental	0	0
Other	5	8.5%
Unknown	1	1.7%
TOTAL	59	100.0%

SECTION V

ASSUMPTIONS AND LIMITATIONS

Introduction

As anybody experienced in field research will testify, the conduct of a study like this is fraught with many difficulties. In this particular study, our need to train individuals in the intervention technique of using a combination of Reality Therapy and counseling for internality strategies was a major problem. We were not able to schedule standard training times for all of the counselors and faculty in each one of the experimental schools. Therefore, we settled for what we could get by way of an opportunity to influence them with these ideas and concepts and help them develop the requisite skills. In addition, several approaches to evaluation were taken, as have already been outlined previously. Given the difficulties in training, the variations in experience of counselors and their training and educational level and the similar conditions with developmental studies instructors, based on the assessment data which we were able to gather both with respect to quality of counseling and quality of instruction we assumed that minimal standards were met. The variations that we found between the schools were assumed to be attributable to the application of the treatment effects which we feel were preferable and more effective than the more traditional counseling and instructional approaches of the control schools.

In addition to the above problems, there was no way to structure into the ongoing life of students any guarantees of individual counseling contacts with the counselors. Only in the schools where human potential

courses or the equivalent were taught and where all students in the developmental studies programs took these courses were we sure that the students in the experimental cells were reached by the counseling treatment. In addition, we were not able to access all of the counseling contacts made so evaluative information only has been gathered on samples of counseling contacts.

A third major kind of issue that has far reaching implications for the outcomes of the study has to do with the variation of the schools. We did not have enough funds to go across the country and randomly selected schools for the experimental and control cells and then follow-up with all the training that was necessary to bring people to a criterion level and to have enough schools in each cell so that we could argue that the school effect had been entirely neutralized. Since we were able to get at least four schools in each experimental treatment it was felt that the school effect was partially neutralized. In addition, the data was analyzed by analysis of covariance so that between-school-variations the pre-test of each of the criterion variables was controlled. Under the above-mentioned circumstances, sex and racial/ethnic factors were monitored as much as possible.

Assumptions

1. The treatment effects reached the majority of students in experimental cells.

2. The quality of individualized instruction in the experimental

cells indeed exceeded the quality of individualized instruction in the control cells.

3. The monitoring of the sample counseling sessions by audio tapes and by the other measuring devices utilized provided an accurate reflection of the quality of counseling contacts made with students.

4. The attrition in subjects from approximately 200 in the original sample down to approximately 800 (first post), 400+ (second post and follow-up).

5. The length of time of the study was enough time to observe the changes in which we were interested.

Limitations

1. This study was confined to developmental studies students in community colleges in Texas.

2. Interpretation of the data is of necessity limited by the general problems of field research and, in particular, in our study by the fact that different teachers and different counselors were working in the different cells and the cells were in differing institutions with differing institutional climates.

3. The subjects were not randomly selected nor were they randomly assigned to the schools but attended schools mostly by fact of geographic residence.

4. Not all subjects took the same number of developmental studies courses. Some of them were in complete programs where everything that they encountered was designed to assist high risk stu-

dents. Others were only taking one, two or more courses which were of a developmental studies nature.

5. The data gathering in the schools was conducted by different persons in different settings. For example, some testing was during class meetings, some was outside of the class meetings, and some of the data gathering was conducted by mailouts.

6. The population dealt within the study was so heterogeneous that the heterogeneity may have had an effect on our ability to discover significance.

7. Not all persons in all cells received counseling.

8. Not all persons in the individualized instruction cells received the same quality of individualized instruction.

9. We tested for homogeneity of variance in normally distributed scores across all cells and corrected for differences through our co-variance procedures. Still there remains the question of whether or not in the design of this particular study, did our inability to make random assignments of subjects to the various cells really meet the technical requirement of analysis of co-variance which assumes a random assignment of cases to cells.

Given the above, it is obvious that the investigators feel a little uncertain "cleanliness" of their data and just how comparable these data were. It should be noted that correlational matrices on all variables were completed, correlational relationships were studied carefully and we did analyze the variation of the pre-test data and ran a

number of separate analyses to establish the final quality and dependability of the data analysis. Because we have been involved with the data in the study for three years it is difficult for us to ascertain how objective we have remained. Still those of us that have been involved with the study, trained the counselors, observed the instructors, met the subjects, examined the data and completed the data analysis have a feeling of confidence in the trends observed in our data and believe that effort was justified and that the original hypotheses are correct.

Finally, after the extensive analyses of the data were conducted and consultation with several methodological and statistical experts was held, it was felt that possibly the final analysis of the data was too coarse to give a truly fair representation of what actually happened. Even though statistical significance was obtained, we have reason to believe the differences were even greater than the analyses indicated. Since there were so many factors involved in this study, the analysis of covariance was somewhat limited in the differences it detected. Subsequent to this report, the use of linear models will be employed to reanalyze this data. A model can be constructed to specifically fit this study and therefore more meaningfully analyze the results. It is expected the significance of the findings will be enhanced considerably.

SECTION VI

DATA ANALYSIS

Part A: Narrative

Data Analysis

Preliminary Analysis Section

Besides the major analyses, many other ways of examining the data were conducted. The first was the demographic data characteristics of the original sample of students tested in September of 1974. Table VI-1 contains all this data in tabular form. Beside the number of respondents in each category the percentage of the whole is given. When appropriate, the mean, the mode and the median are given as further breakdowns. As the reader can see the majority of the students were anglos with a relatively large percentage of chicanos and blacks; the percentages of other minorities were so small that in the final analysis of the data they were excluded. There were also more males than females in the sample. The majority of subjects were between 18 and 23; females were slightly younger than the males. On the average chicanos were the youngest group of all (especially the chicano females), while anglos were a little older and blacks seemed to be the oldest group with the average male older than the average female. The typical anglo was best off financially; the typical black was in the middle; and the typical chicano was least well off. On the average males reported a higher level of family income than did females. Overall family income varied quite a bit between the various students. As far as parental contributions go the majority of students received less than 50% of their support from their parents. Broken down by racial/ethnic group, anglos generally

received more support from their families and blacks generally received less financial support from their families. Overall, the average female reported receiving more financial aid from her parents than did her male counterpart.

Students' fathers mean educational level was approximately 10-1/2 years. Thus, the father of the average student had not completed high school. For anglos the mean number of years of school completed by the father was approximately 12 years (completed high school). Most blacks reported that their father had about 10-1/2 years of schooling. Chicanos reported the least amount of father's education with approximately 8 years in school. Parents of both male and female students had achieved equivalent educational levels. On the mother's education, the mean was approximately 10-1/2 years of schooling completed. Anglos reported that their mother finished 12 years of school (completed high school). Blacks reported their mother completed about 11-1/2 years of school. Chicanos reported that their mothers completed approximately 8 years in school. As with father's education, females reported lower mother education and father education than did males but again the difference was modest.

Please refer to Table VI-1 for a breakdown of the students' report of fathers' occupation. There was a wide range. Generally anglos reported their parents in more skilled occupations than did either blacks or chicanos. There was very little difference between males and females in this category.

Although the majority of students reported they were employed, a

large percentage of students reported they did not work. Modest differences between the racial/ethnic categories existed. But, there was more of a difference between males and females with females more likely not to work than males. As far as number of hours worked there was a wide range here. The average student seemed to work over 25-30 hours a week. Again there is not much difference between the racial/ethnic categories although apparently females did work less hours per week than males.

The following section will be on the students who do not fit in the categories of chicano, black or anglo. These included American Indians, Oriental Americans and unspecified minorities. In addition to the same demographic information as has been already presented on the chicanos, blacks and anglos, mean scores on pre-test instruments for these groups are listed with the ACT composite scores, Fall 1974, and Spring 1975 GPA. This information is contained in Table VI-2. The reader can see from looking at the table there were very few Indians, only 11, even less Oriental Americans, 6. Since the n is so small in these samples the reader will be referred to the table to review the demographic data characteristics as presented. What is of most interest to us in these groups were their scores in the instruments administered. Their scores on the two locus of control scales show an interesting pattern. The American Indians were much more internal on both the Nowicki-Strickland Scale and I, P, C scale than are the Oriental-American and unspecified minorities. The Oriental-Americans seem especially high on the Chance subscore of the I, P, C scales. Also

the American Indian seemed to report the lowest levels of anxiety, with unspecified minorities next, and Oriental Americans reporting the highest levels of anxieties. The American Indians reported the highest social desirability scores while Orientals had the lowest with unspecified minorities in the middle.

Table VI-3 is a summary on pre-test data and ACT scores by race (anglos, blacks, and chicanos) and sex. All the data presented will be on the pre-test scores which were administered in the fall of 1974. Generally anglos scored the most internal of any group. Breaking this down by sex, anglo males scored more internally than anglo females. Chicanos were the next most internal group, and here the sex trend was reversed. Females were slightly more internal than males. The most external of the groups were the blacks. The males were definitely more internal than the females, as measured by the Nowicki-Strickland locus of control scale. The same order generally falls true in the I (internal) subscale of the I, P, C locus of control scale; anglos were the most internal, chicanos were next, and blacks were most external although some of the differences were not that great. Again anglo females were generally more external in this category than were anglo males. Chicano females here were more external than chicano males. Black females were definitely more external than black males.

On the P subscale measuring the effect of powerful others, chicanos reported the least effect of powerful others with anglos next, and while blacks reported the most influence. Broken down by sex this presented interesting

comparisons. Anglo males and females did not differ much on this; anglo females reported a little less influence. Chicano females were definitely less influenced by powerful others as measured by this scale. Most interestingly black males reported a much stronger influence of powerful others than did black females, who with the chicano females were lowest in this group.

Looking at the C subscale of the I, P, C scales the anglos reported the least influence by chance. Chicanos were the next lowest while blacks reported the most influence, although there was not that much difference between blacks and chicanos in this category. Looking at each group by sex, anglo females were more influenced by chance than were males; chicano females were a little less influenced than males although the difference did not appear to be meaningful. Not much was shown between the black males and black females.

Looking at the state (situational anxiety) anxiety score from the State Trait Anxiety Inventory, the chicanos reported the least amount of anxiety followed by the anglos and then blacks. Overall there was not much difference between the groups. We interpret this positively since the measure was of their anxiety while they were filling out the inventories for us. Looking at each group by sex, anglo females were a little more anxious than their male counterparts. Chicano females, however, reported less anxiety than their male counterparts, and in the black group females reported a little more anxiety than the males.

Looking at the trait anxiety scores from the State Trait Anxiety Inventory, generally the chicanos showed the lowest trait anxiety followed by the anglos, then the blacks as the most anxious group. The breakdown by sex indicated the anglo females reported significantly more trait anxiety than did their male counterparts. With chicanos, the females reported slightly more anxiety than the males. With blacks, the females again reported more anxiety than the males.

On a facilitative anxiety score from the Alpert-Haber Achievement Anxiety Test, overall there did not appear to be than much difference between the different racial/ethnic categories. Again what was interesting was when the scores were broken down by sex. Looking at the anglos, females reported less facilitative anxiety than did the males; the same was true with the chicanos and with the blacks. The debilitative anxiety score from the Achievement Anxiety Test reflected the same thing. Overall there was not that much difference between the groups but in each case the males' scores were lower than the females' scores especially in anglo males and black males.

Looking at the Marlowe-Crowne Social Desirability Scale scores revealed a very interesting finding. While there was not much difference between the anglo males and the anglo females, their mean score was much lower than either the chicanos or the blacks. Looking at the chicanos by sex, females had slightly higher social desirability scores. The same was true in the black group with females scoring a bit higher on the Marlowe-Crowne.

Finally, ACT composite scores were examined. The anglos had much higher scores than the blacks with the chicanos in between. In both the chicano and the black groups there was very little sex difference, whereas in the anglos the females had slightly higher scores.

A group of one way analysis of variance was done with different income groups as the independent variable and other demographic characteristics and the students' pre-test scale scores as dependent variables. The first table is Table VI-4 which is the comparison of the income groups with sex as the dependent variable. As one can see there was a definite sex difference which was highly significant. Looking at the group means, females reported lower incomes in their families than did males.

Table VI-5 compares the different income groups with racial/ethnic backgrounds. Again here the F-ratio was significant with the anglos reporting higher levels of family income and chicanos reporting the lowest levels of family income.

Table VI-6 compares income with how much the students reported as their parents' contribution to their school expenses. Again here the differences were statistically significant between the groups, and as one would expect students who reported lower family incomes received less financial help from their parents than students who reported higher levels of family income.

Table VI-7 compares the different income groups with father's educational level. Again the differences between the groups were statistically

significant and again were as one would expect. Students who reported lower levels of family income reported lower levels of father's education, whereas those with higher levels of family income reported higher levels of father's education.

Table VI-8 compares the different income groups with mother's education. The results were statistically significant and basically in the same direction as that of the father's education. That is, groups that reported higher family income also reported higher levels of education for their mothers.

Table VI-9 looks at comparison of income groups with father's occupational level. Again the results were statistically significant and indicated that students reported higher levels of family income when the fathers had a more skilled occupational level.

Table VI-10 compares the different income groups with whether the student is employed or not. The differences between the groups was statistically significant, and students who reported that they worked were more likely to report a higher level of family income.

Table VI-11 compares different income groups with number of hours the students work. Again the differences between the groups were statistically significant. The students who reported that they worked more hours reported higher levels of family income.

Table VI-12 compares the different income groups using scores on the Nowicki-Strickland locus of control scale as a dependent variable. The results were statistically significant, and from what we know about locus of

control theory we would predict that students who reported higher levels of family income would also have scored more internally on the locus of control scale where students who reported lowest levels of family income scored most externally. This was the trend in the group means.

Table VI-13 compares the income groups with the students pre-test score on the Internal scale of the Levenson I, P, C Locus of Control Scale. Note that the differences between the groups were statistically significant. However, although the differences were significant, they were not as clear cut as they were with the Nowicki-Strickland except for the middle income group which is almost as high as the highest income group. Although there was some mixture between the five different groups the trend was that the lower income groups reported less internal control than the higher income groups.

The next Table is VI-14 which compares the income groups with the Powerful Others scale from the Levenson Locus of Control Scale. Here, there were no significant differences between the groups. Looking at the group means, the group that reported the lowest amount of income also reported the lowest belief in Powerful Others. The highest income groups reported one of the highest beliefs in Powerful Others of all the groups.

Table VI-15 compares the different income groups with the Chance scale from the Levenson Locus of Control Scale. Here the differences were significant and were more or less along the lines of what the theory would predict. The lower income groups reported more beliefs in chance factors

whereas the highest income groups reported less beliefs in chance factors.

Table VI-16 refers to the comparison of the income groups with the state anxiety pre-test score on the State Trait Anxiety Inventory. Again the differences between the groups were statistically significant. However, looking at the group means, no clear trend was shown. What is interesting with the two is that although the highest level of income reported the lowest level of state anxiety, the next lowest was the lowest level of income and the three middle income groups reported overall the highest level of anxiety.

The next table is VI-17 which compares the income groups with trait anxiety pre-test score from the State Trait Anxiety Inventory. Again the results were statistically significant. When one looks at the means, the highest income group reported the lowest amount of trait anxiety. There is some mixture in the other groups. The two groups that had the lowest amount of income did report the highest levels of trait anxiety.

Table VI-18 compares the different income groups with the facilitative anxiety pre-test score on the Alpert-Haber Achievement Anxiety Test. Here the results were statistically significant as well. Generally there was a trend that the lower income groups reported higher levels of facilitative anxiety while the higher income groups reported lower levels of facilitative anxiety.

Table VI-19 compares the different income groups with debilitative anxiety pre-test on the Alpert-Haber Achievement Anxiety Test. Here the differences were not statistically significant. If one looks at the group means one can note that there was very little difference between the groups.

Table VI-20 looks at the income groups and compared with the Marlow-Crowne Social Desirability pretest scores. Here the differences between the groups were statistically significant. There was a definite trend. The lower income groups reported the most social desirability response while the highest income groups reported the least.

The next information to be examined is Table VI-21 which contains the information on total dropout information. This is broken down both by racial/ethnic background (chicanos, black and anglos) and by sex within each racial/ethnic category. For the purposes of our study, a dropout was defined as student who had no Fall, 1974 GPA and no Spring, 1975 GPA. However, for the reader's interest and for comparison purposes what is also printed in the table are the numbers who had the Fall GPA but no Spring GPA, no Fall GPA but a Spring GPA, and who had both semester's GPAs. The total for the different groups shows blacks had the highest percentage of dropping out, females were slightly higher than males. Chicanos had the lowest with females slightly less likely to have dropped out than males. In the anglo group, which was in the middle, there was not much difference between the males and females. In the groups with both Fall and Spring GPA, chicanos had the highest percentage of those still in school, the blacks had the lowest and the anglos were in the middle. For interpretation purposes since we know students did not have a GPA, these results were not totally clear. We did not have information on why each student who dropped out did so. However, Table VI-41 presents the results of our Follow-Up Questionnaire which gave us a better idea of why students

did drop out. In many cases we see that they actually did not drop out but perhaps made vocational choices that no longer required schooling or for other various reasons left school in what was not necessarily a negative situation for the student. In short, the student may have made a more meaningful (to him) life (career or personal) choice.

Table VI-22 presents the dropout totals by school. School two had the best record with no dropouts and schools 5, 8, and 10 also had good records. When you look at the percentages of who had both the Fall and Spring GPA, schools 1, 2, 5, 8, and 9 seemed to have the highest totals in this area in percentages. As referred to in the last table, however, this is not necessarily to speak poorly of the school's program. Students who dropped out did not necessarily drop out for negative reasons. They may have dropped out as a part of a change in vocational choice, or to enroll at another school. These results were more or less presented for the reader to get a better picture of what happened at each school.

Analysis of Project Hypotheses

This section deals with analysis of the treatment effects on the locus of control and anxiety measures. Preliminary analyses were done on each variable to see if pre-test scores differed significantly between the different cells. In each case there were statistically significant differences between the cells. Therefore, analysis of covariance was used with each variable, with the pre-test measure as the covariate. In each analysis, a 2x2x2x4 analysis of covariance was performed with the change in personality measure as the dependent variable. The independent variables were Instruction

(Individualized versus Traditional) X Counseling (Composite versus Traditional) X Sex (Male, Female) X Quarter (the subject's pre-test score was broken down into quarters). In addition, there are two tables for each variable. The first is the change from the pre-test to the first post-test. The second is the change from the pre-test to the second post-test. The tables containing this information are VI-23 through VI-40.

The first analysis results are presented in Table VI-23, which is the change on Nowicki-Strickland Locus of Control Scale scores from the pre-test to the first post-test. Looking at Table VI-23 note that all the main effects were either significant or approached significance. Looking at the instruction factor, we note that although it was not statistically significant it did approach that. When looking at the cell mean it can be noted that students who were in the more traditional instruction cells were more likely from time 1 to time 2 to have increased in internality or not to have increased in externality as much as students who were in the more individualized instruction cell. When looking at the counseling factor we note basically the same trend - students who were receiving the more traditional, less experimental counseling were more likely to either have increased in internality or not to have increased in externality as much as students who were in the more innovative counseling cells. What this means for our purposes is that unfortunately from the pre-test to the first post-test (only a period of four months) was not enough time for the instructional and counseling strategies to have had a significant effect on the students. It is as Nowicki (Personal Communication, 1974) reported generally when you are trying to change locus of

control what you may have to see first is an increase in externality and then a longer period of time before the increase in internality occurs.

When one looks at the main effect for sex, males were more often the ones that increased in internality, and females were the ones who increased either in externality or remained about the same. Looking at the main effects of the quarter the student's pre-test score was in, students who were most external were more likely to move toward internality. The only other portion of the analysis which was statistically significant was the effect of instruction by counseling which reflected the trend of the main effects - in that students who received the more traditional counseling or instruction were more likely to have increased in internality.

The next table the reader will be referred to is Table VI-24 which looks at changes in the Nowicki-Strickland Locus of Control Scale from the pre-test to the second post-test. We note that none of the main effects were statistically significant although instruction did approach significance. Looking at the cell means indicates that students who were in the indivudualized instruction cells were more likely either to increase in internality or not to increase in externality as much as students who were in the control instruction cells. Looking at the two-way interaction effects, the effect of instruction by counseling was definitely very significant. The group means indicate students who received both individualized instruction and counseling for internality were much more likely to have increased in internality or not have decreased as much in externality as did groups who did not receive these treatments. This certainly has great import for our study. Another variable

that was not statistically significant but is of interest was the interaction between counseling and sex. What seems to have been the case here is that generally females were less likely to increase in internality than males who received the counseling treatment.

The next table to be examined is Table VI-25. This reflects the change in the subjects' I (Internal) subscale score from Levenson's I, P, C Locus of Control Scales from the pre-test to the first post-test. This refers to the level of internal control the subject perceives himself or herself as having. Sex was the only significant main effect. The case here was the same as for the Nowicki-Strickland Locus of Control measure--females generally not only were more external to begin with but were less likely in any case to have increased in internality than were males or they were more likely to have moved further toward externality. Looking at the two-way interactions, the effect of instruction by counseling was statistically significant. Looking at the cell means what seemed to be the case was the students who were in the individualized instruction cells especially and somewhat in the composite counseling cells were more likely to either have increased in internality as measured by the I scale or were less likely to have increased in externality.

The next table is Table VI-26 which shows the change in the I subscale score from the Levenson I, P, C Scale from the pre-test to the second post-test time. None of the main effects were significant except the effect of sex approached significance. It was reported in time 1 to time 2, generally females were more external to begin with and were less likely to

to have increased in internality and/or more likely to either have stayed at their present level or to have increased in externality. In looking at the rest of the effects no other interaction even approached statistical significance.

Table VI-27 contains the change in the Powerful Others (P) subscale score of Levenson's I, P, C Locus of Control Scale from the pre-test to the first post-test. The only main effect that was statistically significant was the effect of sex. In looking at the cell means, comparing males and females, over the period of time from the pre-test to the first post-test females were much more likely than males to have decreased in their reported beliefs in powerful others whereas males were more likely to have increased in reported beliefs in powerful others or they stayed about the same. None of the other interactions were statistically significant. One that came close at the .105 level was the effect of instruction by sex. Looking at the individual cell means, generally those females who were in the individualized instruction cells were much more likely to have decreased their beliefs in powerful others than were the females who were in these cells.

Table VI-28 contains the change in the Powerful Others (P) subscale score on Levenson's I, P, C Locus of Control Scale from the pre-test to the second post-test. Here as in the previous case the only main effect that was significant was sex. And it was in the same direction as from time 1 to time 2. Females were (even over this longer period of time) more likely to have decreased in their beliefs in powerful others whereas males were

either less likely to change or more likely to have increased in their beliefs in powerful others. Looking at the interactions none were statistically significant or even approached statistical significance.

Table VI-29 refers to the change in the chance (C) subscale score on Levenson's I, P, C Locus of Control Scale from the pre-test to the first post-test. No main effects here were statistically significant although the factor of sex did approach significance. Females were more likely than males to decrease in their reported beliefs in chance factors over the period between the pre-test and the first post-test. There are no two-way interactions that were significant but the three-way interaction between instruction/counseling and what quarter the subjects' pre-test chance score was in were statistically significant. Looking at the cell means, students who received individualized instruction and composite counseling were more likely over this time period to have decreased in their reported beliefs in chance factors--but this was mainly true for those students who were in the low belief in chance factor in the beginning. This indicated that if students had a low belief in chance factors to begin with and if they were in the individualized instruction and composite counseling cells they were more likely to have decreased their belief in chance factors.

Table VI-30 represented the change in Chance (C) score on Levenson's I, P, C Locus of Control Scale from the pre-testing to the second post-test. Although none of the variables reached statistical significance, in looking at the cell means the group that received individualized instruction and composite counseling produced decreases in belief in chance.

Table VI-31 reflects the changes in the state anxiety scores on the State Trait Anxiety Inventory from the pre-test to the first post-test. This particular factor was not extremely important for our purposes in that it reflected the student's anxiety level at the time he/she was taking our inventories. The main effect of instruction was significant here. In looking at the cell means, what seemed to have happened here was that the students in the individualized instruction cells decreased their state anxiety from time 1 to time 2. Another significant finding was the interaction between instruction and what quarter the student's pre-test score was in. This means that students who were receiving individualized instruction and who were highly state anxious decreased in state anxiety from time 1 to time 2, whereas students who were highly state anxious but who were not receiving the individualized instruction did not experience this decrease as much. The three-way interaction instruction by counseling by state quarter was statistically significant. Students who received both individualized instruction and composite counseling and who were most anxious benefitted most from this treatment and reduced most in the amount of state anxiety reported.

Table VI-32 refers to the changes in state anxiety on the State-Trait Anxiety Inventory from the pre-test to the second post-test. The only main effect significant was the effect of instruction and again it was from time 1 to time 2. Students who received individualized instruction were mostly likely to have decreased in their reported state anxiety. Looking at the two-way interactions we note that instruction by counseling was also statistically very significant. This means that students who received the composite

counseling and the individualized instruction were most likely to have decreased their reported state anxiety from time 1 to time 3. Also note in that counseling by sex interaction was significant. The cell means indicated that the counseling had a differential effect in reducing state anxiety depending on whether the subject was male or female. Generally the males were more likely to have decreased in reported state anxiety from time 1 to time 3. Looking at three-way interactions, the effect of instruction X counseling X state quarter approached significance. Looking at the cell means, what appears to be happening is the students who received the individualized instruction and composite counseling and who reported the most anxiety seemed to decrease slightly in state anxiety from time 1 to time 3, more so than people who reported the highest level anxiety but who were not in the individualized instruction composite counseling cell.

Table VI-33 shows the change in trait anxiety as measured by the State Trait Anxiety Inventory from the pre-test to the first post-test. This refers to a person's anxiety level that he/she generally reports that he/she feels. As one can see by looking at the tables nearly all the main effects were significant or approached significance. Looking at the cell means for sex, males generally became less anxious from time 1 to time 2 and females became more anxious from time 1 to time 2. What the significant effect of instruction means here was that from time 1 to time 2, students who received the most individualized instruction were more likely to have reported increases in anxiety scores than students in the more traditional forms of

instruction. What the significant effect of counseling means was that students who received more traditional kinds of counseling were more likely to decrease in reported trait anxiety than those who received the composite counseling. Trait quarter being almost significant was interesting in that students who reported the lower levels of anxiety had a slight tendency to have decreased more in anxiety than those who reported moderate to higher levels of anxiety. Looking at two-way interactions, the interaction of instruction and sex almost approached significance which (by looking at the cell means) indicates males who were in more traditional instruction had the greatest tendency of all the groups to decrease in trait anxiety reported. Also one interaction that was very statistically significant was the interaction between instruction and trait quarter. In looking at those cell means, the students who reported lower levels of trait anxiety to begin with and were in more traditional forms of instruction decreased slightly more than the other groups.

Table VI-34 reports the changes in trait anxiety (as measured by the State-Trait Anxiety Inventory) from the pre-test to the second post-test. Here some interesting reversals occurred over what happened from the pre-test to the first post-test. The instructional effect approached significance. Students in the more individualized instruction were most likely to have reported a decrease in their trait anxiety from time 1 to time 3. Although the sex variable was not significant it approached significance and again as from time 1 to time 2 males were generally more likely to decrease in trait anxiety and females were more likely to increase. The main effect

for trait quarter was significant. This also reflected a change from time 1 to time 2. Looking at the cell means, the people who reported the higher levels of trait anxiety were more likely than the people who reported lower levels of anxiety to decrease in the levels of anxiety reported over time (over and above the effects of regression toward the means). Next looking at two-way interactions we had an interesting finding. There was an interaction between types of counseling received and sex of the subject. What seemed to be happening here was that males who received the composite counseling strategy seemed to have decreased most in anxiety although there was some decrease for females, but it was not as strong a trend. Another significant finding was the counseling by trait quarter interaction which (looking at the cell means) indicated that the students who were in the composite counseling cells and who reported the most anxiety to begin with were more likely to have decreased in reported trait anxiety than any other group. In looking at three-way interactions, though not significant, two approached statistical significance. This was instruction by counseling by sex. By looking at cell means, one discerns that persons who received both the composite counseling strategy and individualized instruction and were males were the ones most likely to have decreased in trait anxiety. In looking at the almost significant effect between instruction, sex and trait quarter, the student who received individualized instruction and was male and reported the highest levels of trait anxiety was most likely to decrease in trait anxiety from time 1 to time 3.

The next table is Table VI-35 which reflects the change in facilitative

anxiety scores on the Alpert-Haber Achievement Test from the pre-test to the first post-test. The only main effect that was significant was sex. In looking at the group means, males were much more likely to have increased in facilitative anxiety over time 1 to time 2 than were females. The only other difference that approached significance was the interaction between instruction and sex. Looking at the cell means, this appears to mainly be a further reflection of the strong differences between males and females. It looks slightly like the males in the traditional setting were more likely to have increased in level of facilitative anxiety reported from time 1 to time 2.

Table VI-36 reflects the change in facilitative anxiety reported on the Alpert-Haber Achievement Anxiety Test from the pre-test to the second post-test. There were several significant effects here. First looking at the main effects, instruction was statistically significant. Looking at the means, what appears to have been the case was students who received the more traditional forms of instruction were more likely to have increased in facilitative anxiety while the students who received the individualized instruction were more likely to have decreased in facilitative anxiety while the students who received the individualized instruction were more likely to have decreased in facilitative anxiety. The counseling factor also seems to have been a significant factor here; looking at the cell means-- students who received more traditional forms of counseling were more likely to have increased in facilitative anxiety while those who received the more innovative kinds of counseling were more likely to have decreased in facilitative anxiety.

As with the change from time 1 to time 2 there was a definite difference between males and females with males reporting more increases in facilitative anxiety over this longer period of time than females. The treatments seem to have been effective in a long range of reducing anxieties in general.

Table VI-37 refers to the change in debilitative anxiety score on the Alpert Haber Achievement Anxiety Test from the pre-test to the first post-test. The only main effect significant by itself was the factor of sex. Males reported more decreases in debilitative anxiety while females reported more increases. The only other aspect that was significant was the three-way interaction between instruction and counseling, and delibitative anxiety quarter. Students who reported lower levels of debilitative anxiety and were in more traditional instruction and counseling were more likely to have reported decreases in debilitative anxiety from time 1 to time 2.

The next table is Table VI-38 which is the change in debilitative anxiety scores on the Alpert Haber Achievement Anxiety Test from the pre-test to the second post-test. Looking at main effects, none were significant but the instructional effect approaches significance. Looking at the cell means, students who were receiving more individualized instruction were much more likely to decrease in reported debilitative anxiety. Looking at two-way interactions, none are significant although the effect of counseling by debilitative anxiety quarter approaches statistical significance. Again looking at the cell means, the students who were receiving the innovative counseling techniques and who reported low or moderately low debilitative

anxiety to begin with were more likely to have further decreased in reported debilitative anxiety. Next looking at three-way interactions, the effect of instruction by counseling by sex approaches significance. Looking at the means, it seems that students who were receiving more individualized instruction and the composite counseling and who were male were more likely to have reported decreases in debilitative anxiety. The three-way interaction that was definitely significant was the effect of instruction, counseling and debilitative anxiety quarter. The cell means indicate that students who were receiving individualized instruction and the experimental counseling and who reported low to moderate levels of debilitative anxiety were much more likely to have reported decreases in debilitative anxiety from time 1 to time 3.

Table VI-39 is the change in the Marlow-Crowne Social Desirability Scale scores reported from the pre-test to the first post-test. This variable was mainly included as a methodological safeguard. The intervention strategies were not designed to change the Marlow-Crowne scores one way or the other. The only significant changes from time 1 to time 2 were for the sexes; in looking at the cell means, males were more likely to have increased in social desirability responding while females were more likely to have decreased in social desirability responding.

The final table in this series is Table VI-40 which contains the changes in the Marlow-Crowne Social Desirability Scale scores from the pre-test to the second post-test. Sex again was the only main effect significant; males were more likely to have increased in their social desirability responding

while females were more likely to have decreased. Several two-way interactions were either significant or approached significance. Looking at the instruction by counseling interaction cell means, students who were receiving more traditional instruction but more innovative counseling were most likely to have decreased in social desirability responding. Instruction by sex was significant with females who received traditional instruction being more likely to have decreased in social desirability responding. There also was a significant effect for counseling and which quarter the Marlow-Crowne pre-test score was in. Looking at the cell means, students who reported the highest level of social desirability responding and who were receiving the more innovative kinds of counseling were more likely than other groups to have reported a decrease in social desirability responding from time 1 to time 3.

Data summary. Generally, what our results indicate is that a period of three to four months was not a long enough time to improve student's locus of control. At least in this situation, a two-semester time period was needed. Additionally, this can be said for the anxiety measures: the decreases in reported anxiety occurred in the treatment cells only after the two-semester period.

Sex differences cropped up in nearly all variables - with females more external and anxious to begin with and much harder to change.

Since there were so many interaction effects, further refinement needs to be accomplished so that the factors can be better separated. Linear models are being developed as a possibility to help in this. What comes out

as most evident, from our knowledge of the schools, is that the schools where the most overall positive humanistic atmosphere existed,the most positive changes were produced.

One explanation for why the more traditional counseling and instruction produced increases in internality and decreases in anxiety initially, could be these settings were more what students were used to. After two semesters, though, they fostered movement toward externality and increases in anxiety.

Follow-Up Summary

The final table in the data analysis section is Table VI-41 which is a frequency distribution of responses to items of the follow-up questionnaire. The reader can see a copy of the follow-up questionnaire in the appendix. The majority or 62% of the students reported that they were still in school. The majority at the time the follow-up questionnaire was administered (January 1976) had more than 20 credit hours completed. One of the most positive aspects of the follow-up questionnaire were those students who explained why they were not in school. And if we refer back to the dropout tables presented earlier note that some schools had fairly high dropout counts. But when why some students were not in school this semester was examined some good reasons appear. Thirteen percent transferred to four-year colleges, eleven percent had entered a new career, eighteen percent had had money problems, thirteen percent had had family problems, twenty percent reported other reasons. What was most interesting was that only two percent reported dissatisfaction with their school and only three percent

reported that it was more difficult than they expected as reasons for their dropping out. Next the students were asked to rate the preparation their school provided for other schools. What was very positive here was that 89% of the students rated their schools either good or excellent.

Looking at employment information most students were employed and most of these were employed full time. A wide variety of types of jobs held was reported and the reader is referred to the table to see this. Generally, the students liked their job and the courses that they had did not necessarily help them obtain their job but more reported that the courses helped perform their job and many reported that it helped them to advance in their job. Also generally their education did aid them in getting their job. What was very interesting though that the majority of the students answering the question if their job was related to their major reported that their job was unrelated to their major.

• Next students were asked to evaluate aspects of their experience at their community college. Generally, this is a very positive thing in that 78% of them rated their overall educational experience as one of being satisfied. The reader is again referred to the table to examine in depth the students goals for attending junior college. The majority of the students were seeking to complete a transfer degree (A.A. or an A.A.S.). And although only 14% said they had accomplished this, 79% said they were either still pursuing the objective or hoped to in the future. And only two percent of the students who answered the question had no further plans to pursue education.

Next the students were asked to rate various aspects of their schools including instructors, counseling, administration, courses, etc. The reader again is referred to the table. In looking at the table one can generally see that by far the large majority of students in each category rated their schools, instructors, counselors, etc., as either excellent or good. Very small percentages in each category rated any of the aspects of their school as either poor or very poor.

Next the students were asked about their future plans or desires for the next four years. Very many interesting and varied reponses were reported. Again the reader is referred to the table for more depth. Although students often reported the job that they currently held as being unskilled or semi-skilled, their future plans or desires indicated a general trend that they wished to move up in the occupational world. Another gratifying discovery was that in examining their future educational plans most students not only reported that they wanted to complete their junior college degree but that they wanted to go on to a four-year college, do graduate work or other training.

The last section of the follow-up questionnaire was on the students past school experiences. Generally most of the students reported that they were 13 or under in the 7th grade. Most reported that they had failed no subjects in the 7th grade or any before the 7th grade. Most felt it was important to graduate from high school and most believed in their ability to graduate from high school.

Generally then the follow-up questionnaire gave us very positive and enlightening information.

SECTION VI

DATA ANALYSIS

Part B: Tables

D E M O G R A P H I C D A T A

The information in this summary was obtained in September, 1974 using the Demographic Data Form, see Appendix A.

NUMBER OF SUBJECTS		
Total	1310	
ETHNIC ORIGIN		
Anglo	562	42.89%
Males	358	(27.32%)
Females	204	(15.57%)
Black	256	19.53%
Males	137	(10.45%)
Females	119	(9.08%)
Chicano	411	31.36%
Males	179	(13.66%)
Females	232	(17.70%)
American Indian	11	0.83%
Oriental	6	0.45%
Other	39	2.97%
Unknown	25	1.97%
SEX BREAKDOWN		
Total Males	710	54.20%
Total Females	590	45.04%
Sex Unknown	10	0.76%

AGE BREAKDOWN

	Total	Anglo	$\bar{X}$ = 1.37	Black	$\bar{X}$ = 1.54	Chicano	$\bar{X}$ = 1.26
1 - 18-23	934	Males	$\bar{X}$ = 1.36	Males	$\bar{X}$ = 1.64	Males	$\bar{X}$ = 1.34
2 - 24-33	258						
3 - 34-45	85	Females	$\bar{X}$ = 1.38	Females	$\bar{X}$ = 1.37	Females	$\bar{X}$ = 1.19
4 - 46-55	14						
5 - 55+	3						

$\bar{X}$ = 1.376
Mode = 1.0
Median = 1.193
Missing = 16

Total Males $\bar{X}$ = 1.43

Total Females $\bar{X}$ = 1.32

FAMILY INCOME

	Total	Anglo	$\bar{X}$ = 4.20	Black	$\bar{X}$ = 3.10	Chicano	$\bar{X}$ = 2.64
1 - $0-2999	125	Males	$\bar{X}$ = 4.26	Males	$\bar{X}$ = 3.49	Males	$\bar{X}$ = 2.81
2 - $3-5999	246						
3 - $6-7999	175	Females	$\bar{X}$ = 4.09	Females	$\bar{X}$ = 2.62	Females	$\bar{X}$ = 2.51
4 - $8-9999	179						
5 - $10+	420						

$\bar{X}$ = 3.46
Mode = 5.0
Median = 3.65
Missing = 163

Total Males $\bar{X}$ = 3.73

Total Females $\bar{X}$ = 3.12

PARENTAL CONTRIBUTION

	Total	Anglo	$\bar{X}$ = 1.42	Black	$\bar{X}$ = 1.27	Chicano	$\bar{X}$ = 1.36
1 < 50%	721	Males	$\bar{X}$ = 1.39	Males	$\bar{X}$ = 1.18	Males	$\bar{X}$ = 1.32
2 > 50%	426						
		Females	$\bar{X}$ = 1.48	Females	$\bar{X}$ = 1.38	Females	$\bar{X}$ = 1.39

$\bar{X}$ = 1.37
Missing = 163

Total Males $\bar{X}$ = 1.33

Total Females $\bar{X}$ = 1.41

VI-B-2

FATHER'S EDUCATION (years of school completed)

		Total	Anglo	$\bar{X}$ = 11.97	Black	$\bar{X}$ = 10.35	Chicano	$\bar{X}$ = 8.14
$\bar{X}$	=	10.46	Males	$\bar{X}$ = 11.93	Males	$\bar{X}$ = 10.34	Males	$\bar{X}$ = 8.15
Mode	=	12						
Median	=	11.56	Females	$\bar{X}$ = 12.06	Females	$\bar{X}$ = 10.37	Females	$\bar{X}$ = 8.13
Missing	=	191						

Total Males $\bar{X}$ = 10.65

Total Females $\bar{X}$ = 10.23

MOTHER'S EDUCATION (years of school completed)

		Total	Anglo	$\bar{X}$ = 12.07	Black	$\bar{X}$ = 11.38	Chicano	$\bar{X}$ = 7.95
$\bar{X}$	=	10.57	Males	$\bar{X}$ = 11.94	Males	$\bar{X}$ = 11.64	Males	$\bar{X}$ = 7.92
Mode	=	12.00						
Median	=	11.64	Females	$\bar{X}$ = 12.32	Females	$\bar{X}$ = 11.09	Females	$\bar{X}$ = 7.97
Missing	=	135						

Total Males $\bar{X}$ = 10.88

Total Females $\bar{X}$ = 10.20

VI-B-3

FATHER'S OCCUPATION

	Total	Anglo	$\bar{X}$ = 5.99	Black	$\bar{X}$ = 3.42	Chicano	$\bar{X}$ = 4.67
1 - Farmer	28	Males	$\bar{X}$ = 5.92	Males	$\bar{X}$ = 3.48	Males	$\bar{X}$ = 4.42
2 - Unskilled	80						
3 - Semi "	198	Females	$\bar{X}$ = 6.13	Females	$\bar{X}$ = 3.33	Females	$\bar{X}$ = 4.85
4 - Service	87						
5 - Skilled	217						
6 - Cler-Off.	88						
7 - Sales	46						
8 - Jr. Exec.	106						
9 - Prof.	129						

Total Males $\bar{X}$ = 5.20

Total Females $\bar{X}$ = 5.16

5.18

Mode = 5.0

STUDENT'S EMPLOYMENT

	Total	Anglo	$\bar{X}$ = 1.63	Black	$\bar{X}$ = 1.65	Chicano	$\bar{X}$ = 1.52
1 - [illegible]	515	Males	$\bar{X}$ = 1.70	Males	$\bar{X}$ = 1.77	Males	$\bar{X}$ = 1.61
2 - [illegible]	752						
[illegible]	43	Females	$\bar{X}$ = 1.49	Females	$\bar{X}$ = 1.51	Females	$\bar{X}$ = 1.44

Total Males $\bar{X}$ = 1.69

Total Females $\bar{X}$ = 1.47

HOURS OF EMPLOYMENT

	Total	Anglo	$\bar{X}$ = 3.61	Black	$\bar{X}$ = 3.55	Chicano	$\bar{X}$ = 3.45
1 1-10	50	Males	$\bar{X}$ = 3.75	Males	$\bar{X}$ = 4.03	Males	$\bar{X}$ = 3.60
2 11-20	121						
3 21-30	195	Females	$\bar{X}$ = 3.27	Females	$\bar{X}$ = 2.69	Females	$\bar{X}$ = 3.30
4 31-40	160						
5 40+	232						

Total Males $\bar{X}$ = 3.77

Total Females $\bar{X}$ = 3.19

$\bar{X}$ = 3.56
Mode = 5
Median = 3.61
Missing = 5

VI- B-4

TABLE VI-B-2

	AMERICAN INDIANS		ORIENTAL AMERICANS		UNSPECIFIED MINORITIES	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Sex: Male	7	63.6	4	66.7	19	48.7
Female	4	36.4	2	33.3	20	51.3
	11	100.0	6	100.0	39	100.0
Age: 18-23	4	36.4	4	66.7	25	64.1
24-33	6	54.4	1	16.7	11	28.2
34-45	1	9.1	1	16.7	2	5.1
46-55	0	0.0	0	0.0	1	2.6
	11	100.00	6	100.0	39	100.0
Family Income Yearly						
$0-2,999	1	9.1	2	33.3	3	7.7
3,000-5,999	2	18.2	1	16.7	7	17.9
6,000-7,999	1	9.1	0	0.0	2	5.1
8,000-9,000	0	0.0	1	16.7	3	7.7
10,000+	5	45.5	1	16.7	14	35.9
Missing	2	18.2	1	16.7	10	25.6
	11	100.0	6	100.0	39	100.0
Parental Contribution to School Expenses						
Less than 50%	9	81.1	2	33.3	25	64.1
More than 50%	2	18.2	1	16.7	10	25.6
Missing	0	0.0	3	50.0	4	10.3
	11	100.0	6	100.0	39	100.0
Father's Education (Mean):	10.5 yrs in school		8.5 yrs in school		11.6 yrs in school	
Mother's Education (Mean):	9.3 yrs in school		10.8 yrs in school		9.8 yrs in school	
Father's Occupational Level:						
Unskilled	0	0.0	1	16.7	1	2.6
Farmer	2	18.2	0	0.0	0	0.0
Semiskilled	1	9.1	0	0.0	4	10.3
Service	1	9.1	2	33.3	2	5.1
Skilled	2	18.2	0	0.0	4	10.3
Clerical-Office	1	9.1	0	0.0	6	15.4
Sales	0	0.0	0	0.0	3	7.7
Junior Exec-Manager	0	0.0	1	16.7	6	15.4
Professional	2	18.2	1	16.7	6	15.4
Missing	2	18.2	1	16.7	7	17.9
	11	100.0	6	100.0	39	100.0
Hours per Week Employed						
0	0	0.0	0	0.0	16	41.0
1-10	0	0.0	1	16.7	0	0.0
11-20	0	0.0	1	16.7	5	12.8
21-30	3	27.3	0	0.0	7	17.9
31-40	0	0.0	1	16.7	5	12.8
40 +	6	54.5	1	16.7	5	12.8
Missing	2	18.2	2	33.3	1	2.7
	11	100.0	6	100.0	39	100.0

Mean Scores on Instruments Administered as Pre-Tests	MEAN	NO. OF CASES	MEAN	NO. OF CASES	MEAN	NO. OF CASES
Nowicki-Strickland Locus of Control Scale (Adult Form)	9.82	11	15.00	6	11.20	35
I (internal) subscore on the I,P,C Locus of Control Scales	39.40	10	36.60	5	37.27	35
P (powerful others) subscore on I,P,C Locus of Control Scales	18.50	10	25.80	5	18.00	34
C (chance) subscore on the I,P,C Locus of Control Scales	18.70	10	30.80	5	18.11	35
State Anxiety score from State-Trait Anxiety Inventory	32.09	11	44.60	5	35.88	34
Trait Anxiety score from State-Trait Anxiety Inventory	36.81	11	48.60	5	38.72	36
Facilitative Anxiety Score from the Achievement Anxiety Test	23.18	11	27.20	5	25.57	35
Debilitative Anxiety Score from the A.A.T	27.81	11	31.60	5	29.49	35
Marlow Crowne Social Desirability Scale Score	18.09	11	15.75	4	17.91	34
ACT Composite Score	8.50	2	6.00	3	13.00	11
1974 Fall Semester GPA	2.40	9	2.54	5	2.78	32
1975 Spring Semester GPA	1.52	8	2.45	5	2.40	31

SUMMARY ON PRE-TEST DATA AND A.C.T. BY RACE AND SEX

TABLE VI-B-3

Instruments Administered As Pre-Tests	BLACK MALES		BLACK FEMALES		ANGLO MALES		ANGLO FEMALES		CHICANO MALES		CHICANO FEMALES	
	Mean	No. of Cases	Mean	No. of Cases	Mean	No. of Cases	Mean	No. of Cases	Mean	No. of Cases	Mean	No. of Cases
Nowicki-Strickland Locus of Control Scale (Adult Form)	12.55	128	14.10	114	9.73	338	10.27	196	12.33	169	12.02	228
I(Internal) subscore on the I,P,C Locus of Control Scales	35.59	118	31.09	113	36.11	346	34.80	198	35.72	165	34.06	227
P(powerful others) subscore on the I,P,C locus of control scales	22.07	121	18.47	112	20.33	347	20.19	198	19.99	165	18.28	228
C(chance) subscale of the I,P,C Locus of Control Scales	21.16	122	20.99	113	17.33	345	18.56	198	20.16	165	20.05	227
State Anxiety score from State-Trait Anxiety Inventory	38.08	132	4	114	37.13	351	37.83	199	37.86	169	35.99	226
Trait Anxiety score from State-Trait Anxiety Inventory	39.91	131	42.30	112	38.51	346	42.09	197	38.98	166	39.61	223
Facilitative Anxiety score from the Achievement Anxiety Test	24.55	119	23.51	111	24.14	350	22.33	198	25.22	174	24.48	230
Debilitative Anxiety score from the A.A.T.	28.61	119	30.93	112	28.96	351	30.72	197	28.69	171	28.99	229
Marlowe Crowne Social Desirability Scale Score	18.75	120	19.69	113	15.58	347	15.55	199	18.79	173	19.21	228
ACT Composite Score	8.25	28	8.29	55	12.32	117	12.97	87	10.13	61	10.13	79

Table VI-B-4

A.

Comparison of Income Groups with Sex as the Dependent Variable in a One Way Analysis of Variance

Group $/year	N	Mean	Standard Deviation
0-2999	115	1.65	0.478
3000-5999	227	1.59	0.492
6000-7999	169	1.41	0.494
8000-9999	165	1.39	0.489
10,000 +	389	1.36	0.480
TOTALS	1063	1.45	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	13.6720	3.4180	14.478	.000
Within Groups	1058	249.7730	0.2361		
Total	1062	263.4450			

C.

Possible Dependent Variable Values

1 = Male, 2 = Female

Table VI-B-5

A.

Comparison of Income Groups with Race as the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	115	2.3565	.8603
3000-5999	227	2.3216	.8506
6000-7999	169	2.2308	.7638
8000-9999	165	2.0364	.6975
10,000 +	387	1.9819	.5162
TOTALS	1063	2.1430	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	25.7032	6.4258	12.862	.000
Within Groups	1058	528.5620	.4496		
Total	1062	554.2653			

C.

Possible Dependent Variable Values

1 Black 2 = White 3 = Chicano

Table VI-B-6

A.

Comparison of Income Groups with Parental Contribution To Expenses as the Dependent Variable In a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	103	1.2816	.4520
3000-5999	200	1.3050	.4616
6000-7999	153	1.3203	.4681
8000-9999	169	1.3154	.4805
10,000 +	350	1.4514	.4983
TOTALS	955	1.3602	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	4.7020	1.1755	5.137	.000
Within Groups	950	217.3859	.2288		
Total	954	222.0880			

C.

Possible Dependent Variable Values

1=less than 50% 2 = more than 50%

Table VI-B-7

A.

Comparison of Income Groups with Father's Education As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	92	8.5326	3.6236
3000-5999	189	9.0000	3.8798
6000-7999	145	9.5862	3.8740
8000-9999	150	10.3400	3.9405
10,000 +	355	11.7070	3.9405
TOTALS	931	10.2932	3.8133

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	1383.6804	345.9201	23.472	.000
Within Groups	926	13647.2670	14.7379		
Total	930	15030.9474			

C.

Possible Dependent Variable Values

Exact figures in grades: 01 - 08 = Grade School
09 - 12 = High School
13 - 20 = College

Table VI-B-8

A.

Comparison of Income Groups with Mother's Education
As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	106	8.4707	3.7701
3000-5999	310	9.2067	3.7653
6000-7999	155	10.0645	3.1963
8000-9999	154	11.1104	2.9536
10,000 +	360	12.7306	2.9395
TOTALS	985	1	23

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	1218.6848	304.6712	20.516	.000
Within Groups	980	14553.6239	14.8506		
Total	984	15772.3086			

C.

Possible Dependent Variable Values

Exact figures in grades: 01 - 08 = Grade School
09 - 12 = High School
13 - 20 = College

Table VI-B-9

A.

Comparison of Income Groups with Father's Occupation Level
As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	66	4.0303	2.0303
3000-5999	155	4.4579	2.0706
6000-7999	125	4.9120	1.9177
8000-9999	126	4.8333	2.3108
10,000 +	359	5.7130	2.1466
TOTALS	809	5.0742	2.1866

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	283.1737	70.7934	13.997	.000
Within Groups	804	4066.3764	5.0577		
Total	808	4349.5501			

C.

Possible Dependent Variable Values

If column 45 is a "2", then:

1 = Farmer
2 = Unskilled
3 = Semiskilled
4 = Service
5 = Skilled
6 = Clerical/office
7 = Sales
8 = Junior executive, manager
9 = Professional, manager

Table VI-B-10

A.

Comparison of Income Groups with Employment
As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	113	1.4513	.4978
3000-5999	222	1.5631	.4971
6000-7999	167	1.6108	.4890
8000-9999	163	1.6380	.4820
10,000 +	380	1.6579	.4750
TOTALS	1045	1.6078	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	4.3056	1.0764	4.560	.001
Within Groups	1040	245.4705	.2360		
Total	1044	249.7761			

C.

Possible Dependent Variable Values

Being Employed
This is to be generated from Item 9, Demographic Inventory:
Not employed (the "0" category is checked)
Employed (one of the other categories is checked)
(Blank if no response was made to Item 9, D.I.)

Table VI-B-11

A.

Comparison of Income Groups with Hours Employed
As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	53	3.0377	1.3723
3000-5999	129	3.4341	1.2428
6000-7999	103	3.4369	1.2961
8000-9999	107	3.8785	1.1135
10,000 +	254	3.8228	1.2464
TOTALS	646	3.6285	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	43.4336	10.8584	7.021	.000
Within Groups	641	991.4024	1.5466		
Total	645	1034.8359			

C.

Possible Dependent Variable Values

If Employed (Column 47 is a "2")

1 = 1-10
2 = 11-20
3 = 21-30
4 = 31-40
5 = 40+

Table VI-B-12

Comparison of Income Groups with Adult Nowicki-Strickland I-E Scale As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	114	12.4211	4.8861
3000-5999	216	12.6944	4.0935
6000-7999	159	10.9811	4.9968
8000-9999	157	10.8089	4.3782
10,000 +	371	9.8571	4.6100
TOTALS	1017	11.0698	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	1335.7810	333.9452	14.646	.000
Within Groups	1012	23074.2623	22.8007		
Total	1016	24410.0433			

C.

Possible Dependent Variable Values

ANS-IE (Opinion Survey)
Pretest Score

Table VI-B-13

A.

Comparison of Income Groups with Internal Scale As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	109	34.6055	7.0291
3000-5999	216	34.2315	7.0771
6000-7999	159	35.5786	6.6327
8000-9999	153	34.6405	7.5964
10,000 +	377	35.9629	6.5820
TOTALS	1014	35.1884	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	531.0839	132.7710	2.783	.026
Within Groups	1009	48115.9388	47.6868		
Total	1013	48647.0227			

C.

Possible Dependen. Variable Values

Internal Scale (Attitude Survey)
Pretest Score

Table VI-B-14

A.

Comparison of Income Groups with Powerful Others As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	110	18.8909	9.8058
3000-5999	217	19.7051	9.2938
6000-7999	159	19.7358	9.3656
8000-9999	156	20.5449	10.3165
10,000 +	377	19.8435	8.7807
TOTALS	1019	19.8018	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	18.7834	45.1958	.518	.723
Within Groups	1014	88483.1735	87.2615		
Total	1018	88663.9568			

C.

Possible Dependent Variable Values

Powerful Others Scale
(Attitude Survey)
Pretest Score

Table VI-B-15

A.

Comparison of Income Groups with Chance Scale As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	108	20.2407	9.8644
3000-5999	218	20.9633	8.7919
6000-7999	159	19.2201	9.1005
8000-9999	156	18.6090	9.4395
10,000 +	377	17.5066	8.7032
TOTALS	1018	18.9735	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	1878.1603	469.5401	5.761	.000
Within Groups	1013	82562.1236	81.5026		
Total	1017	84440.2839			

C.

Possible Dependent Variable Values

Chance Scale (Attitude Survey)
Pretest Score

Table VI-B-16

A.

Comparison of Income Groups with State Anxiety
As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	115	36.5391	9.4305
3000-5999	220	38.3409	10.1080
6000-7999	160	37.5375	9.3505
8000-9999	162	38.2160	10.9083
10,000 +	378	35.8360	9.6193
TOTALS	1035	37.0821	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	1210.9696	302.7424	3.104	.015
Within Groups	1030	100457.0497	97.5311		
Total	1034	101668.0193			

C.

Possible Dependent Variable Values

State Anxiety
STAI Pretest Score

Table VI-B-17

A.

Comparison of Income Groups with Trait Anxiety
As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	114	39.8070	8.5568
3000-5999	215	41.7860	9.2661
6000-7999	155	39.0258	8.9421
8000-9999	161	39.6894	9.8249
10,000 +	375	38.2347	9.7568
TOTALS	1020	39.5088	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	1775.2899	443.8225	5.005	.001
Within Groups	1015	90009.6307	88.6794		
Total	1019	91784.9206			

C

Possible Dependent Variable Values

Trait Anxiety
STAI Pretest Score

Table VI-B-18

A.

Comparison of Income Groups with Facilitative Anxiety
As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	113	24.4779	5.1410
3000-5999	221	24.4977	4.8800
6000-7999	165	24.8545	4.7050
8000-9999	156	23.9167	5.1506
10,000 +	378	23.6323	4.6637
TOTALS	1033	24.1481	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	230.5833	57.6458	2.455	.044
Within Groups	1028	24141.7556	23.4842		
Total	1032	24372.3388			

C.

Possible Dependent Variable Values

Facilitative Anxiety AAT (Exam Attitude Survey)
Pretest Score

Table VI-B-19

A.

Comparison of Income Groups with Debilitative Anxiety
As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	112	29.0625	6.7294
3000-5999	218	29.2936	5.7631
6000-7999	165	29.0606	5.9987
8000-9999	156	29.564	6.0056
10,000 +	378	29.0423	6.1003
TOTALS	1029	29.1798	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	36.8904	9.2226	.250	.910
Within Groups	1024	37754.8492	0		
Total	1028	37791.7396			

C.

Possible Dependent Variable Values

Debilitative Anxiety AAT (Exam Attitude Survey)
Pretest Score

Table VI-B-20

A.

Comparison of Income Groups With Marlowe Crowne Social Desirability Scale As the Dependent Variable in a One Way Analysis of Variance

Group $/Year	N	Mean	Standard Deviation
0-2999	111	19.8739	5.4940
3000-5999	221	18.4389	5.1735
6000-7999	164	17.5915	6.0192
8000-9999	156	17.0449	5.9842
10,000 +	378	16.5635	5.6185
TOTALS	1030	17.5592	

B.

Source Table

Source	D.F.	Sum of Squares	Mean Square	F Ratio	Probability
Between Groups	4	1181.9377	295.4844	9.300	.000
Within Groups	1025	32565.9497	31.7717		
Total	1029	33747.8874			

C.

Possible Dependent Variable Values

Marlowe Crowne Social Desirability Scale
(Personal Reaction Inventory)
Pretest Score

TABLE VI-B-21

CHICANO, BLACK, ANGLO DROPOUT TOTALS

	CHICANOS			BLACKS			ANGLOS		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
No Fall 1974 GPA No Spring 1975 GPA	17	19	36	20	19	39	38	23	61
Fall 1974 GPA No Spring 1975 GPA	25	18	43	26	21	47	61	38	99
No Fall 1974 GPA Spring 1975 GPA	5	12	17	4	0	4	9	5	14
Both Fall 1974 GPA & Spring 1975 GPA	115	127	242	77	72	149	234	127	361
	162	176	338	127	112	239	342	193	535

VI-B-12

CHICANO, BLACK, ANGLO DROPOUT PERCENTAGES

	CHICANOS			BLACKS			ANGLOS		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
No Fall 1974 GPA No Spring 1975 GPA	9.7%	8.3%	10.7%	15.7%	17.0%	16.32%	11.1%	11.4%	11.4%
Fall 1974 GPA No Spring 1975 GPA	17.0%	15.8%	12.7%	20.5%	18.8%	19.67%	17.9%	21.1%	18.5%
No Fall 1974 GPA Spring 1975 GPA	5.6%	13.2%	5.0%	3.2%	0.0%	1.67%	2.8%	4.7%	2.6%
Both Fall 1974 GPA & Spring 1975 GPA	67.7%	62.7%	71.6%	60.6%	64.2%	62.34%	68.2%	62.8%	67.5%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE VI-B-22

DROPOUT TOTALS BY SCHOOL

	School 1	School 2	School 3	School 4	School 5	School 6	School 7	School 8	School 9	School 9 Nursing	School 10	School 10 Nursing
1974 GPA / 1975 GPA	12[a] / 12.1%[b]	0	34 / 20.8%	23 / 16.1%	2 / 2.5%	19 / 27.1%	14 / 9.1%	6 / 4.1%	11 / 13.6%	INVALID - Fall 1974 and Spring 1975 GPA's were not available for school #11	2 / 5.9%	13 / 25.0%
GPA / 1975 GPA	15 / 15.2%	9 / 16.4%	32 / 19.5%	27 / 19.1%	18 / 22.2%	16 / 22.9%	34 / 22.1%	20 / 13.6%	8 / 9.9%		1 / 2.9%	4 / 7.7%
1974 GPA / 1975 GPA	2 / 2.0%	0	2 / 1.2%	9 / 6.3%	0	1 / 1.4%	2 / 1.3%	1 / .7%	0		12 / 35.3%	6 / 11.5%
1974 GPA / 1975 GPA	70 / 70.7%	55 / 83.4%	96 / 58.5%	79 / 55.2%	61 / 75.3%	34 / 48.6%	104 / 67.5	120 / 81.6%	62 / 76.5%		19 / 55.9%	29 / 55.8%
ALS	99/100%	64/100%	164/100%	143/100%	81/100%	70/100%	154/100%	147/100%	81/100%		34/100%	52/100%

a = number of students
b = % of school total

Change in the Adult Form of the Nowicki/Strickland Internal-External (ANSIE) Locus of Control Scores from Time 1 (Pre-Test) to Time 2 (First Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
ANSQTR: ANSIE Quarter (Quarter that subject's pre-test ANSIE score was in -- 1. Highly Internal
2. Moderately Internal
3. Moderately External
4. Highly External

With ANSIE1: ANSIE Pre-Test Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	1829.954	1	1829.954	123.818	.001
ANSIE Pre-test	1829.954	1	1829.954	123.818	.001
Main Effects	306.429	6	51.071	3.456	.003
INST	41.196	1	41.196	2.787	.091
COUN	52.856	1	52.856	3.576	.056
SEX	52.130	1	52.130	3.527	.057
ANSQTR	205.714	3	68.571	4.640	.004
2-Way Interactions	173.931	12	14.494	.981	.999
INST X COUN	55.801	1	55.801	3.776	.049
INST X SEX	10.534	1	10.534	.713	.999
INST X ANSQTR	69.726	3	23.242	1.573	.193
COUN X SEX	.168	1	.168	.011	.999
COUN X ANSQTR	9.375	3	3.125	.211	.999
SEX X ANSQTR	47.329	3	15.776	1.067	.363
3-Way Interactions	114.643	10	11.464	.776	.999
INST X COUN X SEX	2.419	1	2.419	.164	.999
INST X COUN X ANSQTR	32.573	3	10.858	.735	.999
INST X SEX X ANSQTR	67.274	3	22.425	1.517	.207
COUN X SEX X ANSQTR	12.417	3	4.139	.280	.999
4-Way Interactions	31.367	3	10.456	.707	.999
INST X COUN X SEX X ANSQTR	31.367	3	10.456	.707	.999
Residual	11468.826	776	14.779		
Total Covariate	13925.150	808	17.234		

SOURCE TABLE

Change in the I (Internal) Subscale Score on Levenson's I,P,C Locus of Control Scale
from Time 1 (Pre-Test) to Time 2 (First Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
IQTR: Internal Quarter (Quarter Subject's Pre-Test I score was in -- 1. Low Belief in I
2. Moderately Low Belief in I
3. Moderately High Belief in I
4. High Belief in I

With INTLI: Internal Scale Pre-Test Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	9139.423	1	9139.423	221.863	.001
INTLI	9139.423	1	9139.423	221.863	.001
Main Effects	273.031	6	45.505	1.105	.358
INST	7.904	1	7.904	.192	.999
COUN	41.893	1	41.893	1.017	.315
SEX	195.570	1	195.570	4.748	.028
IQTR	32.510	3	10.837	.263	.999
2-Way Interactions	749.448	12	62.454	1.516	.112
INST X COUN	228.514	1	223.544	5.427	.019
INST X SEX	8.401	1	8.401	.204	.999
INST X IQTR	213.071	3	71.024	1.724	.159
COUN X SEX	43.447	1	43.447	1.055	.305
COUN X IQTR	113.826	3	37.942	.921	.999
SEX X IQTR	116.189	3	38.730	.940	.999
3-Way Interactions	238.363	10	23.836	.579	.999
INST X COUN X SEX	6.819	1	6.819	.166	.999
INST X COUN X IQTR	108.018	3	36.006	.874	.999
INST X SEX X IQTR	108.665	3	34.555	.839	.999
COUN X SEX X IQTR	8.206	3	2.735	.066	.999
4-Way Interactions	65.274	3	21.758	.528	.999
INST X COUN X SEX X IQTR	65.274	3	21.758	.528	.999
Residual	31719.350	770	41.194		
Total Covariate	42184.889	802	52.600		

VI-B-16

SOURCE TABLE

Change in the I (Internal) Subscale Score on Levenson's I,P,C Locus of Control Scale
from Time 1 (Pre-Test) to Time 3 (2nd Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
IQTR: Internal Quarter (Quarter Subject's Pre-Test I score was in --
1. Low Belief in I
2. Moderately Low Belief in I
3. Moderately High Belief in I
4. High Belief in I

With INTL1: Internal Scale Pre-Test Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	5472.481	1	5472.481	126.144	.001
INTL1	5472.481	1	5472.481	126.144	.001
Main Effects	301.730	6	50.288	1.159	.327
INST	5.770	1	5.770	.133	.999
COUN	48.229	1	48.229	1.112	.292
SEX	135.791	1	135.791	3.130	.074
IQTR	92.270	3	30.757	.709	.999
2-Way Interactions	414.688	12	34.557	.797	.999
INST X COUN	14.608	1	14.608	.337	.999
INST X SEX	5.809	1	5.809	.134	.999
INST X IQTR	134.293	3	44.764	1.032	.379
COUN X SEX	1.487	1	1.487	.034	.999
COUN X IQTR	22.520	3	7.507	.173	.999
SEX X IQTR	208.444	3	69.481	1.602	.187
3-Way Interactions	485.635	10	48.064	1.108	.354
INST X COUN X SEX	27.040	1	27.040	.623	.999
INST X COUN X IQTR	134.776	3	44.925	1.036	.378
INST X SEX X IQTR	153.498	3	51.166	1.179	.317
COUN X SEX X IQTR	40.312	3	13.437	.310	.999
4-Way Interactions	51.188	3	20.396	.470	.999
INST X COUN X SEX X IQTR	51.188	3	20.396	.470	.999
Residual	16702.321	385	43.383		
Total Covariate	23433.043	417	56.194		

Change in Powerful Others (P) Subscale Score on Levenson's I,P,C Locus of Control Scale
from Time 1 (Pre-Test) to Time 2 (First Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
PQTR: Powerful Others Quarter (Quarter that Subject's Pre-Test P Score was in -- 1. Low Belief in P
2. Moderately Low Belief in P
3. Moderately High Belief in
4. High Belief in P

With POWER1: Powerful Others Scale Pre-Test Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	20273.291	1	20273.291	299.857	.001
POWER1	20273.291	1	20273.291	299.857	.001
Main Effects	572.127	4	143.032	2.116	.076
INST	61.018	1	61.018	.903	.999
COUN	45.182	1	45.182	.668	.999
SEX	529.425	1	529.425	7.831	.005
PQTR	3.270	1	3.270	.048	.999
2-Way Interactions	432.442	6	72.074	1.066	.381
INST X COUN	.050	1	.050	.001	.999
INST X SEX	174.271	1	174.271	2.578	.105
INST X PQTR	68.793	1	68.793	1.017	.314
COUN X SEX	42.886	1	42.886	.634	.999
COUN X PQTR	118.304	1	118.304	1.750	.183
SEX X PQTR	.689	1	.689	.010	.999
3-Way Interactions	59.428	4	14.857	.220	.999
INST X COUN X SEX	33.900	1	33.900	.501	.999
INST X COUN X PQTR	8.615	1	8.615	.127	.999
INST X SEX X PQTR	3.262	1	3.262	.048	.999
COUN X SEX X PQTR	10.888	1	10.888	.161	.999
4-Way Interactions	33.158	1	33.158	.490	.999
INST X COUN X SEX X PQTR	33.158	1	33.158	.490	.999
Residual	51653.961	764	67.610		
Total Covariate	73024.407	780	93.621		

VI-B-18

SOURCE TABLE VI-B-28

Change in Powerful Others (P) Subscale Score on Levenson's I,P,C Locus of Control Scale
from Time 1 (Pre-Test) to Time 3 (Second Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
PQTR: Powerful Others Quarter (Quarter that Subject's Pre-Test P Score was in -- 1. Low Belief in P
2. Moderately Low Belief in P
3. Moderately High Belief in P
4. High Belief in P

With POWER1: Powerful Others Scale Pre-Test Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	13480.530	1	13480.530	200.898	.001
POWER1	13480.530	1	13480.530	200.898	.001
Main Effects	612.697	4	153.174	2.283	.059
INST	.266	1	.266	.004	.999
COUN	4.244	1	4.244	.063	.999
SEX	580.020	1	580.020	8.644	.004
PQTR	14.441	1	14.441	.215	.999
2-Way Interactions	296.327	6	49.388	.736	.999
INST X COUN	89.453	1	89.453	1.333	.247
INST X SEX	13.920	1	13.920	.207	.999
INST X PQTR	6.199	1	6.199	.092	.999
COUN X SEX	24.675	1	24.675	.368	.999
COUN X PQTR	76.498	1	76.498	1.140	.286
SEX X PQTR	15.749	1	15.749	.235	.999
3-Way Interactions	74.041	4	18.510	.276	.999
INST X COUN X SEX	25.129	1	25.129	.374	.999
INST X COUN X PQTR	2.401	1	2.401	.036	.999
INST X SEX X PQTR	28.013	1	28.013	.417	.999
COUN X SEX X PQTR	13.201	1	13.201	.197	.999
4-Way Interactions	24.398	1	24.398	.364	.999
INST X COUN X SEX X PQTR	24.398	1	24.398	.364	.999
Residual	26169.535	390	67.101		
Total Covariate	40657.528	406	100.142		

VI-B-19

Change in Chance (C) Subscale Score on Levenson's I,P,C Locus of Control Scale from Time 1 (Pretest) to Time 2 (First Post test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
CQTR: Chance Quarter(Quarter that subject's pretest C score was in -- 1. Low belief in chance
2. Moderately low belief in chance
3. Moderately high belief in chance
4. High belief in chance

With CHANCE1: Chance Scale Pre test Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	11486.637	1	11486.637	175.888	.001
CHANCE1 Pre-test	11486.637	1	11486.637	175.888	.001
Main Effects	276.860	6	46.143	.707	.999
INST	5.780	1	5.780	.088	.999
COUN	31.388	1	31.388	.481	.999
SEX	179.431	1	179.431	2.748	.094
CQTR	75.489	3	25.163	.385	.999
2-Way Interactions	1030.067	12	85.839	1.314	.204
INST X COUN	55.683	1	55.683	.853	.999
INST X SEX	19.765	1	19.765	.303	.999
INST X CQTR	345.452	3	115.151	1.763	.151
COUN X SEX	151.470	1	151.470	2.319	.124
COUN X CQTR	257.334	3	85.778	1.313	.268
SEX X CQTR	185.256	3	61.752	.946	.999
3-Way Interactions	613.335	10	61.334	.939	.999
INST X COUN X SEX	2.691	1	2.691	.041	.999
INST X COUN X CQTR	512.117	3	170.706	2.614	.049
INST X SEX X CQTR	47.895	3	15.965	.244	.999
COUN X SEX X CQTR	12.278	3	4.093	.063	.999
4-Way Interactions	413.545	3	137.848	2.111	.096
INST X COUN X SEX X CQTR	413.545	3	137.848	2.111	.096
Residual	49567.717	759	65.307		
Total Covariate	63388.162	791	80.137		

SOURCE TABLE VI-B-30

Change in the Chance (C) Subscale Score on Levenson's I,P,C Locus of Control Scale
from Time 1 (Pre-Test) to Time 3 (Second Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
CQTR: Chance Quarter (Quarter that subject's pre-test C score was in -- 1. Low belief in chance
2. Moderately low belief in chance
3. Moderately high belief in chance
4. High belief in chance

With CHANCE1: Chance Scale Pre-Test Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	6593.136	1	6593.136	132.663	.001
CHANCE1	6593.136	1	6593.136	132.663	.001
Main Effects	180.929	6	30.155	.607	.999
INST	30.628	1	30.628	.616	.999
COUN	33.256	1	33.256	.669	.999
SEX	5.436	1	5.436	.109	.999
CQTR	112.722	3	37.574	.756	.999
2-Way Interactions	423.310	12	35.276	.710	.999
INST X COUN	125.870	1	125.870	2.533	.108
INST X SEX	55.049	1	55.049	1.108	.293
INST X CQTR	61.600	3	20.533	.413	.999
COUN X SEX	.303	1	.303	.006	.999
COUN X CQTR	35.238	3	11.746	.236	.999
SEX X CQTR	197.579	3	65.860	1.325	.265
3-Way Interactions	280.279	10	28.028	.564	.999
INST X COUN X SEX	9.013	1	9.013	.181	.999
INST X COUN X CQTR	163.347	3	54.449	1.096	.351
INST X SEX X CQTR	42.784	3	14.261	.287	.999
COUN X SEX X CQTR	63.529	3	21.176	.426	.999
4-Way Interactions	57.781	3	19.260	.388	.999
INST X COUN X SEX X CQTR	57.781	3	19.260	.388	.999
Residual	19034.411	383	49.698		
Total Covariate	26569.846	415	64.024		

VI-B-21

SOURCE TABLE VI-B-31

Change in State (ST) Anxiety Scores on the State-Trait Anxiety Inventory (STAI)
From Time 1 (Pre-Test) to Time 2 (1st Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
STQTR: State Quarter (Quarter subject's Pre-Test State Anxiety Score was in -- 1. Low state anxious
2. Moderately low state anxious
3. Moderately high state anxious
4. High state anxious

With STATE1: State Anxiety Pretest Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	19663.043	1	19663.043	213.696	.001
STATE1	19663.043	1	19663.043	213.696	.001
Main Effects	1339.295	6	223.216	2.426	.025
INST	449.371	1	449.371	4.884	.026
COUN	126.274	1	126.274	1.372	.240
SEX	113.210	1	113.210	1.230	.267
STQTR	540.435	3	180.145	1.958	.117
2-Way Interactions	1211.420	12	100.952	1.097	.354
INST X COUN	91.271	1	91.271	.992	.999
INST X SEX	77.645	1	77.645	.844	.999
INST X STQTR	743.719	3	247.906	2.694	.044
COUN X SEX	3.770	1	3.770	.041	.999
COUN X STQTR	156.334	3	52.111	.566	.999
SEX X STQTR	235.818	3	78.606	.854	.999
3-Way Interactions	1610.235	10	161.024	1.750	.066
INST X COUN X SEX	67.468	1	67.468	.733	.999
INST X COUN X STQTR	1184.905	3	394.968	4.292	.005
INST X SEX X STQTR	58.332	3	19.444	.211	.999
COUN X SEX X STQTR	328.913	3	109.638	1.192	.311
4-Way Interactions	308.988	3	102.996	1.119	.340
INST X COUN X SEX X STQTR	308.988	3	102.996	1.119	.340
Residual	71034.999	772	92.014		
Total Covariate	95167.980	804	118.368		

VI-B-22

SOURCE TABLE VI-B-32

Change in State (ST) Anxiety Scores on the State-Trait Anxiety Inventory (STAI)
from Time 1 (Pre-Test) to Time 3 (Second Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
STQTR: State Quarter (Quarter Subject's Pre-Test State Anxiety Score was in -- 1. Low state anxious
2. Moderately low state anxious
3. Moderately high state anxious
4. High state anxious

ch STATE1: State Anxiety Pretest Score as the Covariate

e of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
iates	10142.427	1	10142.427	115.296	.001
ATE1	10142.427	1	10142.427	115.296	.001
Effects	1728.885	6	288.147	3.276	.004
ST	1271.901	1	1271.901	14.459	.001
UN	99.893	1	99.893	1.136	.287
X	17.499	1	17.499	.199	.999
QTR	166.052	3	55.351	.629	.999
Interactions	1707.667	12	142.306	1.618	.084
ST X COUN	826.534	1	825.534	9.396	.003
ST X SEX	176.881	1	176.881	2.011	.153
ST X STQTR	41.795	3	13.932	.158	.999
UN X SEX	395.216	1	395.216	4.493	.033
UN X STQTR	175.682	3	58.561	.666	.999
X X STQTR	105.496	3	35.165	.400	.999
Interactions	1203.361	10	120.336	1.368	.193
ST X COUN X SEX	80.902	1	80.902	.920	.999
ST X COUN X STQTR	542.994	3	180.998	2.058	.104
ST X SEX X STQTR	410.293	3	136.764	1.555	.199
UN X SEX X STQTR	89.295	3	29.765	.338	.999
Interactions	149.514	3	49.838	.567	.999
ST X COUN X SEX X STQTR	149.514	3	49.838	.567	.999
al	33164.156	377	87.969		
Covariate	48096.010	409	117.594		

Change in the Trait (TR) Anxiety Score on the State-Trait Anxiety Inventory (STAI)
from Time 1 (Pre-Test) to Time 2 (First Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
TRQTR: Trait Anxiety Quarter (Quarter Subject's Pre-test Trait Anxiety Score was in -- 1. Low trait anxious
2. Moderately low trait anxious
3. Moderately high trait
4. High trait anxious

With TRAIT1: Trait Anxiety Pretest Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	10268.534	1	10268.534	181.630	.001
TRAIT1	10268.534	1	10268.534	181.630	.001
Main Effects	2343.325	6	390.554	6.908	.001
INST	875.728	1	875.728	15.490	.001
COUN	1268.026	1	1268.026	22.429	.001
SEX	221.743	1	221.743	3.922	.045
TRQTR	370.609	3	123.536	2.185	.087
2-Way Interactions	1534.210	12	127.851	2.261	.008
INST X COUN	53.490	1	53.490	.946	.999
INST X SEX	200.584	1	200.584	3.548	.057
INST X TRQTR	966.262	3	322.087	5.697	.001
COUN X SEX	.001	1	.001	.000	.999
COUN X TRQTR	71.724	3	23.908	.423	.999
SEX X TRQTR	199.556	3	66.519	1.177	.317
3-Way Interactions	360.190	10	36.019	.637	.999
INST X COUN X SEX	112.802	1	112.802	1.995	.154
INST X COUN X TRQTR	137.762	3	45.921	.812	.999
INST X SEX X TRQTR	27.665	3	9.222	.163	.999
COUN X SEX X TRQTR	48.455	3	16.152	.286	.999
4-Way Interactions	15.349	3	5.116	.090	.999
INST X COUN X SEX X TRQTR	15.349	3	5.116	.090	.999
Residual	37765.696	668	56.535		
Total Covariate	52287.304	700	74.696		

VI-B-24

SOURCE TABLE VI-B-34

Change in the Trait (TR) Anxiety Score on the State-Trait Anxiety Inventory(STAI)
from Time 1 (Pre-Test) to Time 3 (Second Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
TRQTR: Trait Anxiety Quarter (Quarter Subject's Pre-test Trait Anxiety Score was in -- 1. Low trait anxious 2. Moderately low trait anxious 3. Moderately high trait anxious 4. High trait anxious

With TRAIT1: Trait Anxiety Pretest Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	2097.201	1	2097.201	43.730	.001
TRAIT1	2097.201	1	2097.201	43.730	.001
Main Effects	858.223	6	143.037	2.983	.008
INST	149.615	1	149.615	3.120	.075
COUN	10.027	1	10.027	.209	.999
SEX	127.055	1	127.055	2.649	.101
TRQTR	556.885	3	185.628	3.871	.010
2-Way Interactions	875.299	12	72.942	1.521	.115
INST X COUN	15.406	1	15.406	.321	.999
INST X SEX	16.254	1	16.254	.339	.999
INST X TRQTR	162.877	3	54.292	1.132	.336
COUN X SEX	180.300	1	180.300	3.760	.050
COUN X TRQTR	377.493	3	125.831	2.624	.050
SEX X TRQTR	114.651	3	38.217	.797	.999
3-Way Interactions	841.003	10	84.100	1.754	.068
INST X COUN X SEX	164.611	1	164.611	3.432	.061
INST X COUN X TRQTR	165.146	3	55.049	1.148	.330
INST X SEX X TRQTR	332.534	3	110.845	2.311	.075
COUN X SEX X TRQTR	98.321	3	32.774	.683	.999
4-Way Interactions	113.603	3	37.868	.790	.999
INST X COUN X SEX X TRQTR	113.603	3	37.868	.790	.999
Residual	14531.231	303	47.958		
Total Covariate	19316.560	335	57.661		

VI-B-25

Change in Facilitative Anxiety (FA) Score on the Alpert-Haber Achievement Anxiety Test
from Time 1 (Pre-Test) to Time 2 (1st Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
FAQTR: Facilitative Anxiety Quarter (Quarter subject's pretest Facilitative Anxiety score was in --
1. Low level fac. anxiety
2. Moderately low fac. anxiety
3. Moderately high fac. anxiety
4. High fac. anxiety

With FA1: Facilitative Anxiety Pretest Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	3350.753	1	3350.753	214.044	.001
FA1	3350.753	1	3350.753	214.044	.001
Main Effects	281.634	6	46.939	2.998	.007
INST	1.759	1	1.759	.112	.999
COUN	1.768	1	1.768	.113	.999
SEX	259.277	1	259.277	16.562	.001
FAQTR	6.366	3	2.122	.136	.999
2-Way Interactions	113.697	12	9.475	.605	.999
INST X COUN	.246	1	.246	.016	.999
INST X SEX	54.850	1	54.850	3.504	.058
INST X FAQTR	4.311	3	1.437	.092	.999
COUN X SEX	.829	1	.829	.053	.999
COUN X FAQTR	3.839	3	1.280	.082	.999
SEX X FAQTR	44.110	3	14.703	.939	.999
3-Way Interactions	140.412	10	14.041	.897	.999
INST X COUN X SEX	.036	1	.036	.002	.999
INST X COUN X FAQTR	63.815	3	21.272	1.359	.253
INST X SEX X FAQTR	7.223	3	2.408	.154	.999
COUN X SEX X FAQTR	66.861	3	22.287	1.424	.233
4-Way Interactions	72.458	3	24.153	1.543	.201
INST X COUN X SEX X FAQTR	72.458	3	24.153	1.543	.201
Residual	12069.598	771	15.654		
Total Covariate	16028.551	803	19.961		

VI-B-26

SOURCE TABLE VI-B-36

Change in Facilitative Anxiety (FA) Score on the Alpert-Haber Achievement Anxiety Test
from Time 1 (Pre-Test) to Time 3 (Second Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
FAQTR: Facilitative Anxiety Quarter (Quarter subject's pretest Facilitative Anxiety score was in --
1. Low level fac. anxiety
2. Moderately level fac. anxiety
3. Moderately high fac. anxiety
4. High fac. anxiety

With FA1: Facilitative Anxiety Pretest Score as the Covariate

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	1827.579	1	1827.579	111.852	.001
FA1	1827.579	1	1827.579	111.852	.001
Main Effects	417.414	6	69.569	4.258	.001
INST	75.432	1	75.432	4.617	.030
COUN	107.573	1	107.573	6.584	.010
SEX	122.372	1	122.372	7.489	.007
FAQTR	77.399	3	25.800	1.579	.192
2-Way Interactions	194.576	12	16.215	.992	.999
INST X COUN	57.601	1	57.601	3.525	.058
INST X SEX	10.903	1	10.903	.667	.999
INST X FAQTR	79.598	3	26.533	1.624	.182
COUN X SEX	.238	1	.238	.015	.999
COUN X FAQTR	3.775	3	1.258	.077	.999
SEX X FAQTR	36.249	3	12.083	.740	.999
3-Way Interactions	219.487	10	21.949	1.343	.205
INST X COUN X SEX	31.067	1	31.067	1.901	.165
INST X COUN X FAQTR	66.330	3	22.110	1.353	.256
INST X SEX X FAQTR	124.710	3	41.570	2.544	.055
COUN X SEX X FAQTR	54.650	3	18.217	1.115	.343
4-Way Interactions	43.828	3	14.609	.894	.999
INST X COUN X SEX X FAQTR	43.828	3	14.609	.894	.999
Residual	6192.553	379	16.339		
Total Covariate	8895.437	411	21.643		

VI-B-27

SOURCE TABLE VI-B-37

Change in Debilitative Anxiety (DA) Score on the Alpert-Haber Achievement Anxiety Test from Time 1 (Pre-Test) to Time 2 (1st Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
DAQTR: Debilitative Anxiety Quarter (Quarter subject's pretest Debilitative Anxiety score was in --
1. Low level debil. anxiety
2. Moderately low debil. anxiety
3. Moderately high debil. anxiety
4. High debil. anxiety

With DA1: Debilitative Anxiety Pretest Score

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	4768.461	1	4768.461	210.169	.001
DA1	4768.461	1	4768.461	210.169	.001
Main Effects	248.922	6	41.487	1.829	.090
INST	4.328	1	4.328	.191	.999
COUN	1.154	1	1.154	.051	.999
SEX	157.776	1	157.776	6.954	.008
DAQTR	88.296	3	29.432	1.297	.273
2-Way Interactions	254.489	12	21.208	.935	.999
INST X COUN	17.203	1	17.203	.758	.999
INST X SEX	.185	1	.185	.008	.999
INST X DAQTR	58.206	3	19.402	.855	.999
COUN X SEX	3.223	1	3.223	.142	.999
COUN X DAQTR	95.768	3	31.923	1.407	.238
SEX X DAQTR	94.288	3	31.429	1.385	.245
3-Way Interactions	347.554	10	34.755	1.532	.123
INST X COUN X SEX	.517	1	.517	.023	.999
INST X COUN X DAQTR	230.000	3	76.667	3.379	.018
INST X SEX X DAQTR	15.623	3	5.208	.230	.999
COUN X SEX X DAQTR	94.778	3	31.593	1.392	.243
4-Way Interactions	59.691	3	19.897	.877	.999
INST X COUN X SEX X DAQTR	59.691	3	19.897	.877	.999
Residual	17266.068	761	22.689		
Total Covariate	22945.194	793	28.935		

VI-B-28

SOURCE TABLE VI-B-38

Change in Debilitative Anxiety (DA) Score on the Alpert-Haber Achievement Anxiety Test
from Time 1 (Pre-Test) to Time 3 (Second Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
DAQTR: Debilitative Anxiety Quarter (Quarter Subject's pretest Debilitative Anxiety score was in --
1. Low level debil. anxiety
2. Moderately low debil. anxiety
3. Moderately high debil. anxiety
4. High debil. anxiety

With DA1: Debilitative Anxiety Pretest Score

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	2091.066	1	2091.066	103.384	.001
DA1	2091.066	1	2091.066	103.384	.001
Main Effects	129.586	6	21.598	1.068	.381
INST	48.832	1	48.832	2.414	.117
COUN	.683	1	.683	.034	.999
SEX	17.678	1	17.678	.874	.999
DAQTR	54.457	0 3	18.152	.897	.999
2-Way Interactions	322.961	12	26.913	1.331	.198
INST X COUN	.090	1	.090	.004	.999
INST X SEX	5.355	1	5.355	.265	.999
INST X DAQTR	53.801	0 3	17.934	.887	.999
COUN X SEX	28.311	0 1	28.311	1.400	.236
COUN X DAQTR	142.324	0 3	47.441	2.346	.071
SEX X DAQTR	77.990	0 3	25.997	1.285	.278
3-Way Interactions	366.482	10	36.648	1.812	.057
INST X COUN X SEX	49.940	0 1	49.940	2.469	.113
INST X COUN X DAQTR	210.355	0 3	70.118	3.476	.016
INST X SEX X DAQTR	20.598	0 3	6.866	.339	.999
COUN X SEX X DAQTR	73.597	0 3	24.532	1.213	.304
4-Way Interactions	65.174	0 3	21.725	1.074	.360
INST X COUN X SEX X DAQTR	65.174	0 3	21.725	1.074	.360
Residual	7564.624	374	20.226		
Total Covariate	10539.892	406	25.960		

VI-B-29

Change in Marlowe Crowne Social Desirability Scale (MC) Scale Score
from Time 1 (Pre-Test) to Time 2 (1st Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
MCQTR: Marlowe-Crowne Quarter (Quarter subject's Pretest Marlowe Crowne Score was in -- 1. Low socially desirable response 2. Mod. low socially desirable response 3. Mod. high socially desirable response 4. High socially desirable response

With MCSD1: Marlowe Crowne Social Desirability Scale Pretest

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	966.264	1	966.264	68.012	.001
MCSD1	966.264	1	966.264	68.012	.001
Main Effects	75.471	6	12.579	.885	.999
INST	3.997	1	3.997	.281	.999
COUN	1.241	1	1.241	.087	.999
SEX	59.283	1	59.283	4.173	.039
MCQTR	6.858	3	2.286	.161	.999
2-Way Interactions	155.443	12	12.954	.912	.999
INST X COUN	3.287	1	3.287	.231	.999
INST X SEX	1.294	1	1.294	.091	.999
INST X MCQTR	64.406	3	21.469	1.511	.209
COUN X SEX	21.306	1	21.306	1.500	.219
COUN X MCQTR	39.404	3	13.135	.925	.999
SEX X MCQTR	4.985	3	1.662	.117	.999
3-Way Interactions	126.780	10	12.678	.892	.999
INST X COUN X SEX	1.452	1	1.452	.102	.999
INST X COUN X MCQTR	19.749	3	6.583	.463	.999
INST X SEX X MCQTR	56.571	3	18.857	1.327	.263
COUN X SEX X MCQTR	38.075	3	12.692	.893	.999
4-Way Interactions	40.765	3	13.588	.956	.999
INST X COUN X SEX X MCQTR	40.765	3	13.588	.956	.999
Residual	11138.449	784	14.207		
Total Covariate	12503.173	816	15.323		

VI-B-30

SOURCE TABLE VI-B-40

Change in Marlowe Crowne Social Desirability Scale (MC) Scale Score
from Time 1 (Pre-Test) to Time 3 (Second Post-Test)

By INST: Instruction (Individualized vs Traditional)
COUN: Counseling (Composite vs Traditional)
SEX: Male, Female
MCQTR: Marlowe-Crowne Quarter (Quarter subject's Pretest Marlowe Crowne Score was in -- 1. Low socially desirable response 2. Mod. low socially desirable response 3. Mod. high socially desirable response 4. High socially desirable response

With MCSD1: Marlowe Crowne Social Desirability Scale Pretest

Source of Variation	Sum of Squares	DF	Mean Square	F Ratio	Significance of F
Covariates	912.354	1	912.354	46.891	.001
MCSD1	912.354	1	912.354	46.891	.001
Main Effects	141.154	6	23.526	1.209	.300
INST	.791	1	.791	.041	.999
COUN	27.856	1	27.856	1.432	.230
SEX	79.375	1	79.375	4.080	.041
MCQTR	24.894	3	8.298	.426	.999
2-Way Interactions	403.989	12	33.666	1.730	.058
INST X COUN	70.013	1	70.013	3.598	.055
INST X SEX	84.628	1	84.628	4.349	.035
INST X MCQTR	58.545	3	19.515	1.003	.393
COUN X SEX	6.234	1	6.234	.320	.999
COUN X MCQTR	147.680	3	49.227	2.530	.056
SEX X MCQTR	53.127	3	17.709	.910	.999
3-Way Interactions	98.628	10	9.863	.507	.999
INST X COUN X SEX	49.527	1	49.527	2.545	.107
INST X COUN X MCQTR	3.913	3	1.304	.067	.999
INST X SEX X MCQTR	6.191	3	2.064	.106	.999
COUN X SEX X MCQTR	29.462	3	9.821	.505	.999
4-Way Interactions	92.953	3	30.984	1.592	.189
INST X COUN X SEX X MCQTR	92.953	3	30.984	1.592	.189
Residual	7685.528	395	19.457		
Total Covariate	9334.605	427	21.861		

TABLE VI-B-41

Results of Follow-Up Questionnaire

	# of Students	%
I. Current Status		
1. Is student currently enrolled (528)*		
a. Yes	330	62%
b. No	198	37%
2. Credit hours completed (296)		
a. less than 10	39	13%
b. 10-20	60	20%
c. more than 20	197	67%
3. Why not in our school this semester (287)		
a. completed program	14	5%
b. transferred to another jr. college	19	7%
c. transferred to 4 yr. college	38	13 %
d. entered training program	5	2%
e. entered new career	32	11 %
f. money problems	51	18 %
g. health problems	17	6%
h. family problems	36	13 %
i. dissatisfaction with school	7	2%
j. more difficult than expected	10	3%
k. other	58	20%
4. Rate preparation school provided for other school (129)		
a. excellent	37	29%
b. good	77	60%
c. not very helpful	12	9%
d. poor	3	2%
II. Employment Information		
5. Are you employed (335)		
a. No	106	32%
b. part-time	83	25%
c. full-time	146	43%

* Total number of students who answered this question

	# of Students	%
6. What kind of job do you have (245)		
a. manual/unskilled labor	27	11%
b. semi-skilled (machine operator, etc.)	35	14%
c. trade and industry (auto mechanic, etc.)	16	7%
d. clerical/secretarial/office	42	17%
e. sales	19	8%
f. technology (data processor, etc.)	5	2%
g. communication (broadcasting, etc.)	1	
h. applied arts (photography, etc.)	1	1%
i. fine arts (painter, actor, etc.)	1	
j. public services (police, etc.)	11	4%
k. health services (nursing, etc.)	29	12%
l. junior executive (store manager, etc.)	9	4%
m. other	49	20%
7. Does student like job (238)		
a. like it	184	77%
b. dislike it	22	9%
c. indifferent	32	14%
8. Did courses help to... (189)		
a. obtain my job	53	28%
b. perform my job	78	41%
c. advance in my job	58	31%
9. Did education aid in getting job (252)		
a. Yes	166	66%
b. possibly	45	18%
c. No	30	12%
d. do not know	11	4%
10. Is job related to major (242)		
a. directly related	41	17%
b. somewhat related	68	28%
c. unrelated	133	55%

III. Evaluation of Your Experience at Our School

11. Feelings about overall education experience (516)		
a. very satisfied	130	25%
b. satisfied	277	53%
c. neutral	82	16%
d. disappointed	24	5%
e. very disappointed	3	1%

	# of Students	%
12. Goal at junior college (507)		
a. a transfer degree (AA or AAS)	281	55%
b. a two year credit, non-transfer diploma	77	15%
c. a one year credit certificate	39	8%
d. complete credit courses only	70	14%
e. complete non-credit certificate	1	0%
f. complete non-credit courses only	0	0%
g. gain saleable skills	14	3%
h. satisfy intellectual curiosity	25	5%
13. Have accomplished this (505)		
a. Yes	70	14%
b. no, still pursuing objective	267	53%
c. no, hope to in future	130	26%
d. no, changed objective	27	5%
e. no, no plans to pursue further education	11	2%

14. Rate the following (# of Students/%)

		Excellent	Good	Fair	Poor	Very Poor
(509) a.	teachers	138/27%	299/59%	61/12%	10/2%	1/0%
(500) b.	counselors	133/26%	215/43%	110/22%	29/6%	13/3%
(492) c.	administration	78/16%	287/58%	105/22%	16/3%	6/1%
(500) d.	acad. standards	97/20%	287/57%	101/20%	12/2%	3/1%
(498) e.	student body	94/19%	260/52%	124/25%	12/2%	8/2%
(506) f.	courses	111/22%	292/58%	89/17%	9/2%	5/1%
(505) g.	variety courses	165/32%	221/44%	92/18%	23/5%	4/1%
(506) h.	grading policy	92/18%	276/55%	116/23%	15/3%	7/1%
(504) i.	prog. offered	140/28%	255/50%	89/18%	16/3%	4/1%
(62) j.	other	24/39%	14/22%	6/10%	12/19%	6/10%

IV. Future Plans or Desires for the Next 5 Years

	# of Students	%
15. Future work plans (514)		
a. manual/unskilled labor	2	0%
b. semi-skilled	13	3%
c. trade and industry	23	4%
d. clerical/secretarial/office	53	10%
e. sales	13	3%
f. technology	32	6%
g. communication	9	2%
h. applied arts	8	2%
i. fine arts	13	3%
j. public services	58	11%
k. health services	100	19%
l. junior executive	37	7%
m. no plans for job outside the home	8	2%
n. other	77	15%
o. two or more responses	68	13%

	# of Students	%
16. Future educational plans (501)		
a. complete jr. college degree	142	28%
b. complete 4-yr. college degree	207	41%
c. complete graduate degree (M.A., etc.)	105	21%
d. complete training course elsewhere	20	4%
e. other	27	5%

V. Past School Experiences

17. Age in the 7th grade (520)		
a. 13 or under	440	85%
b. 14-15	74	14%
c. over 15	6	1%
18. Failing any subjects in 7th grade ((519)		
a. none	440	85%
b. one	58	11%
c. two or more	21	4%
19. Fail grade before 7th grade (521)		
a. none	430	82%
b. one	82	16%
c. two or more	9	2%
20. Important to graduate from high school (522)		
a. Yes	472	90%
b. No	50	10%
21. Ability to graduate from high school (521)		
a. Yes	441	85%
b. probably	45	9%
c. doubtful	23	4%
d. No	12	2%

SECTION VII

IMPLICATIONS

IMPLICATIONS

The possible implications of this research present some fascinating propositions to community college educators. Our major consideration and curiosity was, of course, whether or not well-executed, well-designed, systematic personalized instruction would in fact enhance the sense of the student being in charge of his/her life as well as reduce the anxiety he/she might experience in the college learning situation. In examining the data it became evident to us fairly early that instruction is a necessary but not sufficient condition for the kinds of changes that we were hoping would occur. Only in those cells where we had highly individualized instruction as well as composite counseling strategies did we get results which we felt were definitive enough to be useful.

As noted elsewhere in this study it is very difficult to determine what significance is. Certainly the concept of significance in the traditional (statistical) sense does not apply in this field setting with a multitude of variables many of which we were not able to control and/or measure to assess their effects. We can only assume that in addition to the highly individualized instruction and counseling that was occuring in the treatment cells where reduction in externality and trait anxiety occurred that the school "climate" in these schools, in a broad sense, was also more supportive of student learning and student success. It appeared that these more progressive and innovative colleges were attempting to be more involved with the student as a whole person and were, in fact, doing everything in their power

to facilitate student success in and control over his/her own learning processes.

This study has demonstrated at least in part that the community college can avoid the accusation of creating a negative cooling-out effect for the high risk student. In fact, the data suggest it is possible to provide the kind of instruction, counseling and general climatic support to help people with histories of failure to succeed in modern community colleges. Continued refinement of these methodologies and closer examination of possible climatic factors involved is occurring in studies now funded by USOE. With additional research effort, we hope to more clearly define the role of institutional climate. Hopefully we can now begin to better identify the differences between a good educational program in the sense of promoting student growth and learning, and a poorer educational program in the sense of mitigating against or not facilitating the learning and success of the high-risk students. Stated in a rather negative form, this suggests that in education, as in counseling and psychotherapy, the deterioration effect exists. We may well have demonstrated a deterioration effect in student control expectancy (more external) and trait anxiety (increased). It is hoped that those persons concerned with the development and furthering of educational proccesses will see this research evidence as cause for caution. Complacency surrounding the quality of instruction, nature and method of counseling, and the climate within which students learn may encourage student "deterioration" during participation in the educative process.

Another interesting aspect of this study can be found by looking at the results from the beginning of the first semester when the students were in the developmental studies program. Some students by the end of that semester showed positive increases in some measures. However, when we looked at the students at the end of their second semester when most of them were no longer in developmental studies some had lost the gains made the first semester. In general most students in the innovative cells showed increases in internality after the second semester (even though many were no longer in developmental studies). High risk students may need more than one semester of time in intensive relationships with both instructors and counselors to better facilitate their development, as a student member of the community college community. Lasting changes in personality variables may need a longer period of time to "take" for most students. In connection with this observation we found that in two institutions concern was expressed and action was addressed to the problem of student regression. In these two colleges students could continue in the developmental studies program for a year or reduce the amount of time they spent in the developmental studies for the second semester. At the end of one semester, the student was not arbitrarily "dumped" into the mainstream of the college without some follow-up and continuing support.

Another possible implication is that successful students learn their environment. The students' experience with success in the academic enterprise might have taught them a realistic locus of control expectancy for that particular academic environment. Thus the regression effect observed

in the second semester for some students could also be a reflection of a reality adjustment that students are making. None of the programs were in schools where the non-developmental studies climate was as supportive, well-designed, or received as much care and attention as did developmental studies.

Addressing the facet of student personalities, if nothing else this study indicated schools achieved most success with their students when the student was treated as a whole person and when his/her personality as well as his/her past history was considered when the school worked with him/her. This is shown especially in the variables of locus of control and anxiety. Where these variables were considered and positive things happened the student did increase in matters that are desirable in school, i.e. achievement, completing the course, etc. One additional point to consider within these variables is there are some definite sex and racial/ethnic group differences. For example, anglos more readily changed their locus of control whereas blacks changed the least. However, on anxiety although anglos and chicanos do change, blacks' trait anxiety decreased as a result of the treatments. This might indicate that it is more difficult to change blacks' locus of control because, as the most external of the groups studied, their past reinforcement histories are the most difficult to overcome. Although there were some sex differences in locus of control (females generally were more external), the sex differences appeared most strongly in the anxiety measures. It appears that females are not only more anxious initially, but their anxiety levels are much more difficult to change. These

implications suggest further directions of research to examine the differences more fully and see if additional (even more effective) change strategies could be developed and refined.

The study also raises more speculation about the nature of the locus of control variable. As the study began we knew it was multidimensional on the externality dimension. Virginia Crandell (Crandell, Note 1) suggested to us that within internality also there was success expectancy as well as the traditional internal control expectancy operating. This is particularly true with the Nowicki-Strickland Internal-External locus of control scale which we were using. Given that the expectancy variable (externality vs. internality) is developed on the basis of the individual's reinforcement history and given the fact that our culture is marked with discontinuities it may be that locus of control is, in part, a reflection of reality in specific situations. For example, over the last ten years blacks have generally increased in internality. During these ten years they have gained more political power, better jobs, and educational opportunities. The difficulty of changing some students tends to suggest that minority students may be picking up existing clues from their educational environment (i.e. attitudes and prejudices of their instructors, counselors, and other "power" people) that they should not be able to succeed in the system. Powerful others failure expectations is a powerful variable.

Furthermore, in the case of women, it was quite apparent from the data that women express more anxiety and their anxiety increases with entry into their academic programs. It would be of interest to know to what

extent women are gaining subtle (or not so subtle) clues from their academic environment indicating that they are not supposed to succeed. This would seem to be particularly true for women who came from poor educational environments or backgrounds where the influence on women may be toward filling more traditional feminine sex roles. Put another way, if middle class women have trouble breaking into the educational and occupational systems, what are the comparative problems of a woman coming from a poor and/or minority family where there might even be a greater emphasis on getting married, being a wife and mother and holding to a traditional sex role as opposed to becoming a pioneer and entering the higher educational field for the first time. Traditionally men have been able to break out of poverty through education or military service. It has only been in recent years that both these avenues have been partially opened for women. One possible implication of this is that the community college educator needs to give more consideration to women as a separate minority group. Particularly the educator should focus on helping the women ameliorate expectations stemming from sex-role stereotypes and aid them in focusing on what they want for themselves. In this kind of program awareness sessions, special group counseling sessions, and similar activities providing good role models of professional women would be appropriate.

Following the stream of earlier studies, the implications for the subsequent work adjustment of these students are extensive. The preparation of the student for the world of work is only one step in a series of adjustments that a person needs to make. Earlier studies on college graduates

show, for example, that there is only about an 80% utilization rate by the society for the college graduate. We are not aware of comparative statistics in the area of vocational and educational training. We do know that completion rates in occupational preparation programs is much lower than 80%. Traditionally in occupational education we have assumed that if somebody gets a job, any kind of a job, without completing their occupational preparation, they are considered a success.

Because of the advancing technology in the modern world, the job structure is changing very rapidly. When you look at our national economy in the framework of changing world conditions, and the changing role of the United States in the world, it is notable that to enter the work force individuals need more preparation that just being able to get a job. This is not to demean getting a job--especially in these times of relatively high employment. The focus here is individuals who have a poor sense of control over self in this changing environment. At a time when a person's particular vocation can cease to exist (as when automation replaces him), or when his company collapses beneath him, a sense of personal control is vital to one's well-being and ability to make adjustments.

This brings up the question of even if you could get "high risk" students through an occupational training program without having significant impact on their personality, would you want to do so? We are suggesting it is a very legitimate objective of educational programs to help people gain a greater sense of control over their lives. This control will facilitate work adjustment, greater flexibility in problem-solving, thinking and

personal adjustment thereby better equiping people for life in these changing times where adjustment and readjustment to new jobs and new situations is becoming a way of life.

For nearly fifteen years counselors have been writing and talking about the necessity to develop counseling strategies that are targeted toward very specific problem areas for specific personality variables. As opposed to overall general counseling strategies, targeted strategies are considered to be more effective. Earlier research on counseling and psychotherapy showed that about as many people in psychotherapy deteriorated as grew as a result of the counseling interventions (Bergin, 1963, 1966, 1971; Mink and Isaksen, 1959).

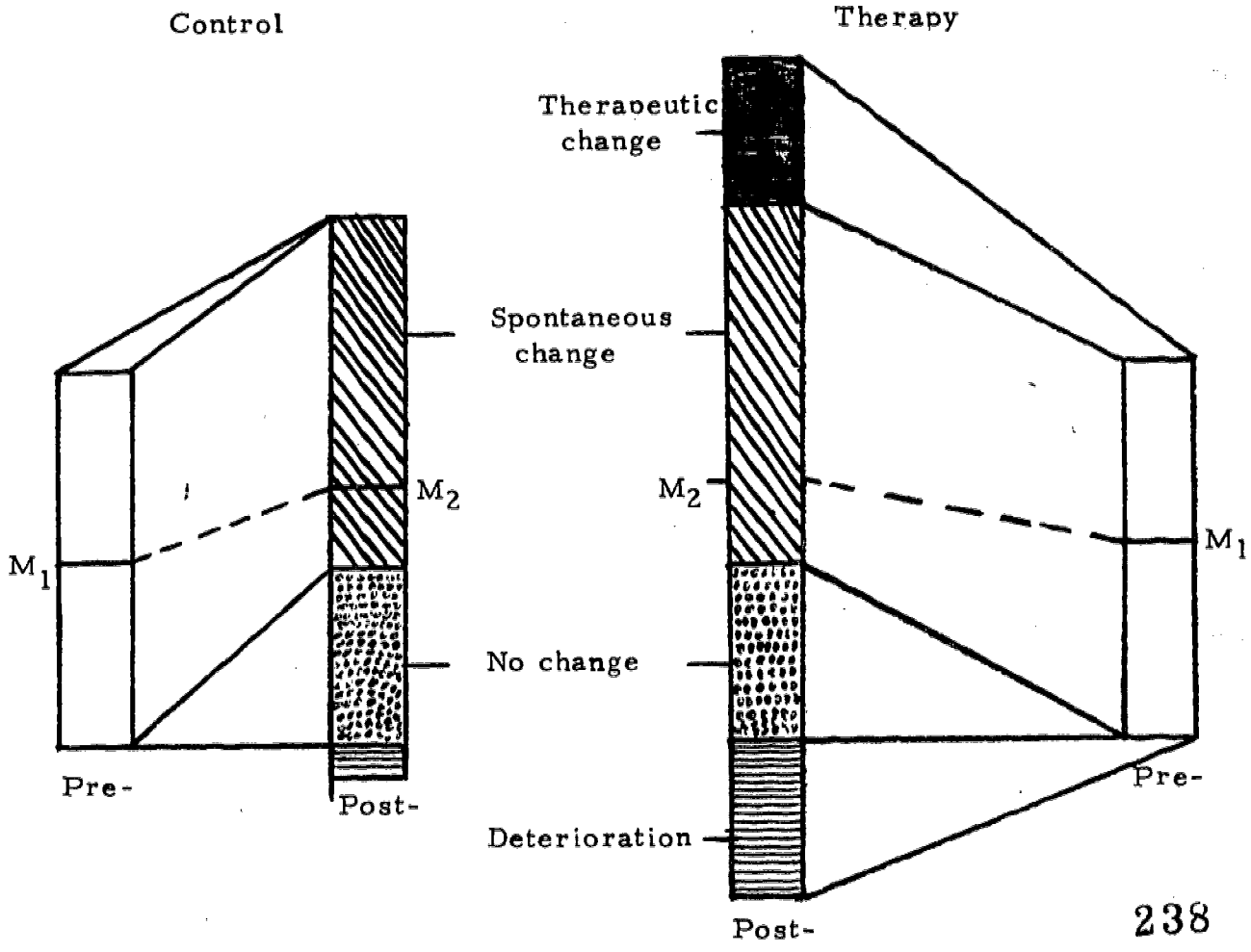


Figure VII-1. The deterioration effect. Schematic representation of pre- and post-test distributions of criterion scores in psychotherapy outcome studies. (Reproduced by permission from the Handbook of Psychotherapy and Behavior Change by Allen E. Bergin and Sol L. Garfield, John Wiley & Sons, Inc., 1971, 248.

Part of this problem is attributed partly to the multitude of variables involved in dealing with the total personality and partly to the effectiveness of counseling methodology. Unless the community college wants to also take over the role of the comprehensive community mental health clinic, being able to target specific personality variables which might be interfering with educational development, learning, or future placement and work adjustment would be more reasonable, more efficient and in the long run more beneficial to the student as well as the community. From this perspective we think the study was significant.

We also realize that as more effort needs to be put into perfecting the counseling methodologies in terms of the development of activities that can be utilized, settings in which the principles can be applied, and the movement away from the heavy cognitive orientation of the processes that have been developed to deal more with the effective dimensions of these processes. Currently we are developing proposals to funding agencies which will allow us to continue development of this particular methodology.

From working with treatment interventions during the study, two additional points can be emphasized. 1) Individualized Instruction which has been developed technically to the point where it can really make a difference in the lives of students is still a long way from being installed so that it is working efficiently and effectively in the community college. 2) There exists a critical need to improve the training strategies available for helping already employed and previously trained instructors and counsel-

ors learn new methodologies of dealing with students. Also of greater importance, how to help school administrations see the necessity for improved staff development is a problem. There is an operating assumption on the part of many educators (and particularly in the schools which are doing a better job) that: "We're doing as good a job as can be done and we know best about how to go about doing it." Thus, there may be a kind of innovation myopia operating.

Finally, one of the most interesting speculations about what has happened in the study would concern long term effects of counseling and instruction on these students. What long range changes in these students can be attributed to the locus of control shift? Does it make a student happier in his work later? Is he more persistent? Is he happier at home? Is he more realistic? Better-adjusted? These are the kinds of things that psychology in general and educators as well need to consider when they are making these interventions. In the long run, what is going to happen to these students? Do the student's behave one way at school and then revert to some of their previous behavior patterns after they are out of school? Only further research will shed light on these areas.

REFERENCES

Bergin, A.E. The effects of psychotherapy: Negative results revisited. Journal of Counseling Psychology, 1963, 10, 244-250.

Bergin, A.E. Some implications of psychotherapy research for therapeutic practice. Journal of Abnormal Psychology, 1966, 71, 235-246.

Bergin, E.A. and Garfield, S.L. (Eds.) Handbook of Psychotherapy and Behavior Change. New York: John Wiley and Sons, Inc., 1971, 217-270.

Mink, O.G. and Isaksen, H.L. A comparison of effectiveness of non-directive therapy and clinical counseling in the junior high school. The School Counselor, 1959, 6, (3), 12-14.

REFERENCE NOTES

Crandell, Virginia. Personal communication, 1974.

APPENDICES

A. Demographic Data Form

B. Follow-Up Questionnaire

C. NIMH Project Definition of "Individualized Instruction." A Checklist Developed by Barbara P. Washburn and Barton Herrscher.

D. Four Forms for Counseling Evaluation

E. Resources and Publications

NAME _____

NAME OF COLLEGE _____

Please answer the following questions by placing a mark by the most appropriate answer for you. If you personally object to any of the questions, please feel free to leave them blank. If you wish to comment on any of the questions, please do.

1. Sex: _____Male _____Female

2. Age: _____18-23 _____34-45 _____55+

   _____24-33 _____46-55

3. Racial Ethnic Background:

   _____Afro-American (Black) _____Native-American (Indian)

   _____Euro-American (White) _____Oriental-American (Japanese, Chinese)

   _____ Mexican-American (Chicano) _____Other

4. Estimate what you think your family income is and check the appropriate space below.

   _____ 0 - 2,999 _____ 8,000 - 9,999

   _____3,000 - 5,999 _____10,000 and above

   _____6,000 - 7,999

5. What percent of your total educational costs do your parents contribute?

   _____less than 50% _____more than 50%

6. Your father's education (circle the highest grade completed)

Grade School								High School				College							
1	2	3	4	5	6	7	8	1	2	3	4	1	2	3	4	5	6	7	8

7. Your mother's education (circle the highest grade completed)

Grade School								High School				College							
1	2	3	4	5	6	7	8	1	2	3	4	1	2	3	4	5	6	7	8

8. Please indicate your father's occupational level.

   _____Don't know

   _____Farmer

   _____Unskilled (laborers, seasonal workers)

   _____Semiskilled (apprentices, machine operators, truck drivers)

(continued on next page)

____Service (police, restaurant workers, private household workers)

____Skilled (carpenters, plumbers, foremen, craftsmen)

____Clerical/Office

____Sales

____Junior executive, manager (store manager, owns small business)

____Professional or executive (doctor, lawyer, large business owner or manager)

9. How many hours per week are you employed?

____0 ____21 - 30

____1 - 10 ____31 - 40

____11 - 20 ____40+

10. Comments:

FOLLOW-UP QUESTIONNAIRE

NAME_____

Social Security Number_____-_____-_____

I. CURRENT STATUS

1. Are you enrolled in our school this semester?
   a. Yes (skip to question 11)
   b. No

2. How many credit hours have you completed?
   a. less than 10
   b. 10-20
   c. more than 20

3. Why are you not in our school this semester?
   (You may check more than one if appropriate.)
   a. completed the program or courses for which I was enrolled
   b. transferred to another junior college (name of school:_____)
   c. transferred to a four year college (name of school:_____)
   d. entered a training program elsewhere (for example, business college, beauty college, etc.) (name of program:_____)
   e. entered a new career (for example, armed services, sales job, etc.) (name of career:_____)
   f. financial difficulties
   g. health problems
   h. marital or family circumstances
   i. dissatisfaction with our school
   j. found the work more difficult than I expected
   k. other (please be specific)_____

4. If you transferred to another school, please rate the preparation for further education which you received at our school:
   a. excellent
   b. good
   c. not very helpful
   d. poor

II. EMPLOYMENT INFORMATION

5. Are you employed?
   a. No
   b. part-time
   c. full-time

6. What kind of job do you have?
   a. manual/unskilled labor
   b. semi-skilled (machine operator, assembly line worker, telephone operator, etc.)

(continued on next page)

6. c. trade and industry (auto mechanic, plumber, carpenter, etc.)
   d. clerical/secretarial/office
   e. sales
   f. technology (data processor, engineering technician, drafting, optics, etc.)
   g. communication (broadcasting, journalism, public relations, advertising, etc.)
   h. applied arts (photography, fashion, interior design, etc.)
   i. fine arts (painter, actor, musician, dancer, etc.)
   j. public services (police, social welfare, etc.)
   k. health services (medical technician, nursing, physical therapy, etc.)
   l. junior executive (store manager, owner of small business, etc.)
   m. other (please be specific)_____

7. How do you feel about your job?
   a. like it
   b. dislike it
   c. indifferent

8. Did the courses at our school help you in any of the following ways? (You may check more than one if appropriate.)
   a. obtain my job
   b. perform my job
   c. advance in my job

9. Could you have gotten your present job without your education at our school?
   a. Yes
   b. possibly
   c. No
   d. do not know

10. Is your job related to your started major at our school?
    a. directly related
    b. somewhat related
    c. unrelated

III. EVALUATION OF YOUR EXPERIENCE AT OUR SCHOOL

11. Which of the following best describes your feeling about your overall educational experience at our school?
    a. very satisfied
    b. satisfied
    c. neutral
    d. disappointed
    e. very disappointed

12. What did you hope to accomplish at our school?
    a. complete a transfer degree (AA or AAS)
    b. complete a two year credit, non-transfer diploma
    c. complete a one year credit certificate

(continued on next page)

12. (continued)

d. complete credit courses only
e. complete non-credit certificate
f. complete non-credit courses only
g. gain saleable skills, whether completing courses or not
h. satisfy intellectual curiosity, whether completing courses or not

13. Have you accomplished this objective?
a. Yes
b. no, but still pursuing the objective
c. no, but still hope to in the future
d. no, but changed my objective to one I feel is more appropiate
e. no, and have plans to pursue any further level of education

14. Please rate the overall quality of each of the following at our school using these five possible ratings:
1. Excellent 2. Good 3. Fair 4. Poor 5. Very Poor

_____ a. teaching staff
_____ b. counseling staff and services
_____ c. administration
_____ d. academic standards
_____ e. student body
_____ f. courses I took
_____ g. variety of courses offered
_____ h. grading policies
_____ i. programs offered
_____ j. other (please be specific)_____

IV. FUTURE PLANS OR DESIRES FOR THE NEXT 5 YEARS

15. What future work plans do you have?
(See question # 6 above for further explanation of categories if needed.)
a. manual/unskilled labor
b. semi-skilled
c. trade and industry
d. clerical/secretarial/office
e. sales
f. technology
g. communication
h. applied arts
i. fine arts
j. public services
k. health services
l. junior executive
m. no plans to have a job outside the home
n. other (please be specific)_____

16. What future education plans do you have?
    a. complete a junior college degree
    b. complete a degree at a four year college
    c. complete a graduate degree (M.A., Ph.D., M.D., etc.)
    d. complete a training program elsewhere (please be specific)

    _____

    e. other (please be specific)

    _____

V. PAST SCHOOL EXPERIENCES

17. How old were you in the 7th grade?
    a. 13 or under
    b. 14-15
    c. over 15

18. Were you failing any of your subjects in the 7th grade?
    a. none
    b. one
    c. two or more

19. Did you ever fail a grade before the 7th grade?
    a. none
    b. one
    c. two or more

20. Was it important to you that you graduate from high school?
    a. Yes
    b. No

21. Did you think that you would be able to graduate from high school?
    a. Yes
    b. probably
    c. doubtful
    d. No

Name

Course

School

NIMH PROJECT DEFINITION OF "INDIVIDUALIZED INSTRUCTION"[1]

A Checklist Developed by
Barbara P. Washburn and Bart Herrscher[2]

This questionnaire is to be completed by the course instructor. In addition, a staff member of the NIMH Project or a designated consultant will interview the instructor, perhaps observe the instructor during a learning session, and review the instructor's learning materials.

For this project, "individualized instruction" has been defined to include the following components:

1. Employing a "systems approach" to instruction (Categories A through D).

2. Allowing students a flexible time schedule to master course materials (Category E). (Assumption: Students learn at different rates. The purpose of instruction is to hold mastery consistent and vary the rate.)

3. Student involvement and input as to the objectives of the course to be mastered (Category F).

4. Institutional support systems facilitate operational components of individualized instruction (Category G).

5. Instructor's role as a manager of the course (Category H).

Of the following items, a (yet to be determined) score of "yes" responses constitutes an "individualized" course. There can be no category in which there are all "no" responses. Not all of the items will be weighted equally.

---

1. The National Institute of Mental Health project title is: "Impact of Instruction and Counseling on Disadvantaged Youth." John Roueche is the Principal Investigator and Oscar Mink is the Project Director.

2. Contributions to this instrument have been made by several members of the faculty of the Department of Educational Administration, University of Texas at Austin. Ben Harris and Kenneth McIntyre have been especially helpful. Drs. Harris and McIntyre are authors of a scale titled Descriptive Observation Record (Instrument F-7). Their scale and the accompanying manual were very useful references in the process of editing and developing the NIMH scale and may be very useful to those persons wanting to develop individualized instruction free of the systems approach. The NIMH scale advocates the use of the systems approach to individualizing instruction as one aspect of the application of general systems theory to the educational process. Other sub-systems of the learning environment include counseling and the organization's environment.

DIRECTIONS: Please answer each item "yes" or "no." If you wish to clarify any response or item, please do so on the back of the page.

	YES	NO
A. Objectives		
1. Course goals communicating major conceptual and behavioral outcomes are provided in writing for the students at the beginning of the course.	____	____
2. After consultation with students, behaviorally stated end of course (terminal) objectives are communicated in writing to the students. (See Category F.)	____	____
3. After consultation with students, behaviorally stated unit objectives are developed and shared with the students in writing. (See Category F.)	____	____
4. Objectives are written in at least two of the following domains: cognitive (mental skills), affective (feelings or attitudes), psychomotor (manual skills).	____	____
5. At least fifty per cent of the specific course objectives in the cognitive domain involve more than student comprehension of subject content, e.g., interpretation, extrapolation, application, analysis, synthesis, and evaluation. (See Bloom's taxonomy.)	____	____
B. Testing		
1. Test items are developed from the stated course objectives.	____	____
2. Assessment methods of objective achievement such as oral exams, performance tests, situational tests, observations, or checklists may be employed in addition to paper and pencil tests.	____	____
3. Students have the option of taking a comprehensive course exam if they feel that they have sufficient skills to be exempted from the course.	____	____
4. A diagnostic pre-test is given on unit objectives to determine a student's present achievement level.	____	____

	YES	NO
5. Based upon pre-test results, a student may be exempted from a portion of the unit objectives or an entire unit.	____	____
6. Evaluation results are reported according to objectives mastered at a competency level rather than as an average letter or number grade, e.g., correctly solving nine out of ten algebraic equations with one unknown.	____	____
7. For each unit there is an established standard or level of mastery of acceptable learner performance on the objectives that must be met before a student can move on to the next instructional unit.	____	____
8. Criteria referenced mastery levels may be negotiated and modified through instructor-student negotiations. (Pertains to one or more course grades--A, B, or C level)	____	____
9. Students are tested on necessary prerequisite knowledge and skills and are provided materials and instruction necessary to remedy deficiencies.	____	____
10. Prerequisite skill checklists are made available to the students for the course. Or, students know what competencies they must bring to the course in order to do the work of the course.	____	____
11. There is an opportunity for a student to evaluate his own achievement of objectives through self-testing, feedback, and self-correction of errors.	____	____
12. At all times--before, after, and during testing activities--special academic help on a one-to-one basis is available to students needing it (either by the instructor, a paraprofessional, or a student tutor).	____	____

C. Learning Activities

1. In addition to lecture, discussion, and readings, other learning activities are employed, e.g., resource persons, audio-tutorial methods, tutoring, films, role plays, games, field projects.	____	____
2. More than fifty per cent of the course objectives have two or more learning activities--e.g., tutors, lectures, readings, slide tape presentations--available to the students to aid them in mastering course objectives.	____	____

	YES	NO
3. Learning activities allow for students to practice in a variety of modes in order to achieve the stated unit objectives, prior to the formal evaluation situation.	____	____
4. The learning activities are keyed at an appropriate level to the objectives of the course for the sequence of learning--simple to complex.	____	____
5. The objectives are appropriate to the current learning level or competencies of the individual student as well as to the level of his particular sub-group in the target population. (Students are able to learn what they are asked to do.)	____	____
6. Learning activities provide for frequent practice and active participation by students in the learning process. Students "learn by doing."	____	____
D. Revision of Course Materials and Strategies		
1. There is a method of recording information on student error rate on practice items and on unit tests which is used in revising course materials and strategies.	____	____
2. There is information gathered concerning the student's opinion of the content of the course which is used in revising course content.	____	____
3. New information regarding course subject matter is used in revising the course content at least every two years.	____	____
4. Information is gathered on the student's opinion of the methods of instruction employed in the course which is used in revising instructional activities.	____	____
E. Time for Learning		
1. Students are allowed as much time as possible to master a topic.	____	____
2. Students are given the option of taking course tests at different times.	____	____

	YES	NO
3. Students are allowed to restudy unmastered course objectives and retake tests to attain mastery.	____	____
4. There are at least three different tests or methods to measure each objective.	____	____
5. Students may receive an "in progress" or "incomplete" grade at the end of the institutional grading period and be allowed to continue working into a succeeding term to master course objectives.	____	____
6. Students may complete a course prior to the end of the instructional grading period.	____	____
7. Students who wish to go beyond required criteria on certain units or chapters may do so. Or, they may select other options such as building new units or functioning as resource personnel and/or peer tutors.	____	____

F. Student Involvement and Quality of Life Considerations or "School is a Nice Place to be"

1. Student input of topics for subject content is included in the course design.	____	____
2. Students are allowed to help formulate the operation of the course operations by designing and directing some learning activities or sessions.	____	____
3. Students have a choice as to the content "their" course will contain by being allowed to contract with the instructor for mutually agreed upon objectives. (Answer "yes" if a choice is available at any grade level--A, B, or C.)	____	____
4. A general atmosphere of freedom (self-direction) for the student prevails in the classroom. (Student selects learning options, negotiates learning contracts, suggests learning experiences, etc.)	____	____
5. The student is able to contract for the grade he wishes to strive for; renegotiation upward or downward is acceptable.	____	____
6. Instruction includes activities designed to improve interpersonal relation skills of students. (Does the instructor actually build into the course process interpersonal skill development exercises?)	____	____

	YES	NO
7. Students are encouraged to "make friends" and to assist each other.	____	____
8. Provision is made for individual differences in student self-direction, student self-initiative, and student self-responsibility.	____	____
9. Students are given a "rationale" or told "why" course is important to them.	____	____
10. Effort is made to assist students in relating course content to future student goals and interests, such as careers.	____	____

G. Institutional Support

1. There is no "F" grade; the student receives no grade until he has mastered the objectives.	____	____
2. If necessary, students may spend at least a year studying a semester's course. (Institution ruling)	____	____
3. If a student finishes a course early, he is able to move into the next course in the sequence immediately (or another course of his choosing).	____	____
4. Academic policy permits a student to "test out" of all or part of the course through pre-testing.	____	____
5. An attempt is made to match the "learning style" of the student with the instructor and his preferred method.*	____	____
6. Vocational counseling and standardized testing are available to students on a referral or self-referral basis.	____	____
7. Academic counseling, including development of study skills, is available to students on a referral or self-referral basis.	____	____

H. Course Management - This unit is deliberately personalized. We want your perception of course management.

1. As an instructor, do you see yourself as a person in two or more of the following roles: (1) diagnostician; (2) tutor; (3) motivator; (4) catalyst; in short, a manager of learning?	____	____

*Instructor uses this method 50% or more of all contact hours.

	YES	NO
2. Are you as the instructor willing to share accountability for learning with the students?	____	____
3. Are your instructional materials portable?	____	____
4. Can your students determine where and when to use the instructional materials?	____	____
5. Can the student control the information flow and repeat if it is not understood?	____	____
6. As an instructor, do you pay attention to "principles of instruction," such as: (a) explicit instructions, (b) material broken into short segments, (c) frequent practice, (d) knowledge of results, and (e) positive reinforcement?	____	____
7. Is your course organized so that students can proceed with a minimum of reliance on you for direction?	____	____
8. Do you believe that most (or all) students can master the course if they are given enough time and appropriate instruction?	____	____
9. Do you make provision for students to "quest" or to move out on their own and personally devise objectives, learning activities, and resources--both individually and in groups?	____	____
10. Do you provide for students to direct some group learning activities?	____	____

GLOSSARY OF TERMS

Accountability - Accountability implies the accepted responsibility for the outcome of a process or event. Specifically, the accountable instructor is one who is willing to set objectives for student learning and then measure his effectiveness against the attainment of those objectives by the students.

Behavioral Objectives - A behavioral objective is a specific statement of the behavior that a student should exhibit at the end of the instructional period. It usually consists of three elements: (1) desired behavior (e.g.,compute simple addition problems); (2) performance standard (e.g., 9 out of 10 items correct); and (3) conditions under which behavior and standard will be required (e.g., when given a paper and pencil test).

Bloom's Taxonomy - Bloom's taxonomy is the classification system developed by Benjamin Bloom for categorizing instructional objectives. There are 6 major categories listed in order of increasing complexity: knowledge, comprehension, application, analysis, synthesis, and evaluation.

Competency Level - Competency level is that level at which a student is considered to possess the skill or knowledge necessary for achievement of a particular objective.

Contract Grading - Contract grading is that process whereby a grade is negotiated between an instructor and a student. A statement of what the student will do to achieve what grade is then written and agreed upon by both student and instructor.

Criteria Referenced - Criteria referenced refers to testing which measures a student's performance with respect to an established criterion or performance standard. This particular approach is contrasted against norm or referenced testing in which a student's level of performance is ascertained through comparison to the performance of other students.

Learning Modes - Assumption: not every student learns best through the same experiential or didactic (communication exchange) process. Some students learn best from lectures, others from discussion, others from reading, others through discovery, and others through practice--trial and error. A learning mode refers to any number of processes through which a person changes his behavior.

Performance Objectives - Performance objectives are objectives of which the outcome is the performance of a particular task.

Prerequisite Skills - A skill which needs to be mastered prior to the learning of a new skill.

Pre-Test - A pre-test is a test given at the beginning of a course or unit of instruction designed to determine a student's knowledge of the subject matter in the course or unit to be studied.

Unit Objectives - Unit objectives are a related set of objectives which when taken will culminate in the learning of a particular skill, concept, or idea.

STUDENT EVALUATION

APPENDIX D-I

Name _____

Social Security Number _____

This is a questionnaire about your experiences in counseling this year. Please answer every question. Your responses will be confidential.

1. How satisfied were you with the help you received in counseling?
   _____Very satisfied
   _____Generally satisfied
   _____Somewhat disappointed
   _____Very disappointed

2. To what extent did counseling give you a feeling of self-confidence or improve your opinion of yourself?
   _____Greatly increased my doubts
   _____Given me some doubts
   _____Increased somewhat my self-confidence
   _____Greatly increased my self-confidence

3. How important do you consider counseling to have been in your overall happiness or adjustment?
   _____Of no value at all
   _____Mostly unimportant
   _____Generally important
   _____Very important

4. How helpful was counseling in making you aware of your talents and abilities in setting some goals for the future?
   _____Extremely helpful
   _____Somewhat helpful
   _____Of little help
   _____Of no help at all

5. As a result of counseling, do you feel that your relationships with people have improved?
   _____Not at all
   _____Very little
   _____Somewhat
   _____A great deal

6. Did counseling make you more optimistic about your future?
   _____Much more optimistic
   _____A little more optimistic
   _____No difference in optimism
   _____Less optimistic

7. As a result of counseling, do you feel you have more control over the direction of your life or over the events in your life?
   _____A lot more control
   _____More control than before
   _____No change in control
   _____Less control

REALITY THERAPY EVALUATION - FORM A

Counselor's Name _____

1. Was the student able, with the counselor's help, to identify the unacceptable behavior? Yes_____ No_____ If yes, list what they were.

_____

_____

2. Did the student make a value judgment? Yes_____ No_____

3. Was the student able, with the counselor's help, to identify the consequences? Yes_____ No_____ If yes, list what they were.

_____

_____

4. Was a plan decided on, and were the steps of the plan identified? Yes_____ No_____ If yes, identify the steps.

_____

_____

5. At any time, did the counselor indicate that he cared for the student, or that the student was a person of worth? Yes_____ No_____ If yes, very briefly write the statement made by the counselor.

_____

_____

6. At any time, did the counselor say anything that might cause the student to feel that the counselor might be understanding of the problem? Yes_____ No_____ If yes, briefly write the statement made by the counselor.

_____

_____

7. Did the counselor say or do anything that might have caused the student to withdraw, be suspicious or uncooperative? Yes_____ No_____ If yes, briefly write the statement(s).

_____

_____

_____

8. Do you feel counseling was useful or practical to you?

_____Definitely not
_____A little
_____In some ways
_____Very useful and practical

9. Were you able to discuss personal problems in counseling?

_____Never
_____Seldom
_____Sometimes
_____A great deal

10. Was counseling helpful to you in solving your personal (including academic) problems?

_____Very helpful
_____Somewhat helpful
_____Not very helpful
_____Of no help at all

Thank you for your evaluation.

REALITY THERAPY EVALUATION - FORM B

Student's Name _____

Counselor _____

1. How many contracts were made? _____

2. How many contracts were kept? _____

3. Did the plan "pay off" for the student? Did he get what he wanted?

_____ Yes _____ No
(check one)

Counselor's Name _____

SELF APPRAISAL

Directions: Circle the digit which comes closest to describing you:

1. How authentic am I? Am I fully aware, congruent, in myself?

1 2 3 4 5 6
Low Average High

2. How expressive am I? Do I communicate unambiguously to others?

1 2 3 4 5 6
Low Average High

3. How positive am I in my warmth, caring, respect for the others?

1 2 3 4 5 6
Low Average High

4. Am I strong enough to be separate, respecting my own needs and feelings?

1 2 3 4 5 6
Low Average High

5. Am I secure enough to permit others their full separateness?

1 2 3 4 5 6
Low Average High

6. How fully can I enter into the private worlds of others, sensing their meanings and feelings with no desire to judge, to evaluate, to praise, to criticize, to explain or to alter them?

1 2 3 4 5 6
Low Average High

7. Can I relate so that others feel me to be in no way a threat and so that they become less fearful of external evaluation from anyone?

1 2 3 4 5 6
Low Average High

8. Do I encounter others as <u>becoming</u> rather than as fixed (not by the past, to be appraised, or diagnosed)?

1 2 3 4 5 6
Low Average High

9. How clearly is my own self-image one of change, development, growth, emergence?

1 2 3 4 5 6
Low Average High

Resources and Publications

(1) Reprints Available on a Limited Basis:

1. Counseling for Internality, John E. Roueche and Oscar G. Mink, 1976.
2. E to I Methods, by Oscar G. Mink, 1973.
3. Internality Approach to Organizing Learning Groups in the Community College Classroom, by Oscar G. Mink, 1976.
4. Introduction to Locus of Control, by Catherine A. Christner, 1974.
5. NIMH Project Definition of "Individualized Instruction": A Checklist, by Barbara P. Washburn and Barton Herrscher, 1974.
6. Outline for Reality Therapy, by Oscar G. Mink, 1973.
7. Pilot Study on Advancement Studies Program, Southeastern Community College, Whiteville, North Carolina, School Year 1972-73 by Oscar G. Mink, 1973.
8. Pilot Study at Austin Community College, by Oscar G. Mink and Michael P. Abbott, 1974.
9. Principles and Procedures for Group Leaders, by Oscar G. Mink, 1973.
10. Reality Therapy and Counseling and Instruction for Internality. A Workshop Syllabus by Oscar G. Mink, 1974.
11. Reality Therapy and Personalized Instruction: A Success Story, by Oscar G. Mink and Gordon E. Watts, 1974.
12. Research on Counseling Strategies for Underachieving Students, by Gordon E. Watts, 1974.
13. The Achievement Anxiety Test (AAT), by Catherine A. Christner, 1974.
14. The Adult Form of the Nowicki-Strickland Internal-External Scale (ANS-IE), by Catherine A. Christner, 1974.

15. The Marlowe-Crowne Social Desirability Scale, by Catherine A. Christner, 1974.

16. The State Trait Anxiety Inventory (STAI) by Catherine A Christner, 1974.

17. Three Scale to Measure Three Dimensions of Locus of Control: Hanna Levenson's I (Internal), P (Powerful Others), and C (Chance) Scales, by Catherine A. Christner, 1974.

(2) Workbooks:

1. Counseling for Internality (Counselor's Workbook), compiled and written by Project Staff, 1975.

2. Individualized Instruction (Instructor's Workbook), compiled and written by Project Staff, 1975.

3. The Reality Therapy Process and Julian Rotter's Social Learning Model, A Self-Instructional Workbook by Oscar G. Mink, and Barbara P. Washburn-Mink.

(3) Published Papers:

1. Confronting Student Attitudes, John E. Roueche, Barbara P. Washburn and Oscar G Mink. Austin: Sterling Swift Publishing Company, 1976.

2. Creating an Environment for Learning, Community and Junior College Journal, March, 1976, pp. 48051.

3. Improving Student Motivation, by John E. Roueche and Oscar G. Mink, Austin: Sterling Swift Publishing Company, 1976.

4. Toward Personhood Development in the Community College, by John E. Roueche and Oscar G. Mink, Community College Review, March, 1976, pp. 40-50.

(4) Books:

1. Implementing Personalized Instruction: A Systematic Approach, by Barbara P. Washburn, Kendhall-Hunt Publishing Company, Dubuque, Iowa, 1975.

(5) Dissertations Stimulated by the Project:

1. Christner, Catherine A. "The Relationship Between Sex, Racial/Ethnic Background, Locus of Control, Defensive Externality and Social Desirability and their Relative Impact Upon the Academic Achievement of Community College Students." Department of Educational Psychology, University of Texas at Austin, 1977.

2. Creel, William Bob. "Investigation of Locus of Control Shifts Among Selected Student Streams at Delgado College." Department of Educational Administration, University of Texas at Austin, 1976.

3. Dixon, Lois W. "An Investigation of Deterioration Effects in Control Expectancy Among Selected Community College Students." Department of Educational Administration, University of Texas at Austin, 1977.

4. Rosario, Anita. "The Interaction of Counseling Strategy and Locus of Control." Department of Educational Psychology, University of Texas at Austin, 1977.

5. Spann, Milton G., Jr. "Locus of Control as a Predictor of Academic Achievement Among Non-Traditional Students in a Community College." Department of Educational Administration, University of Texas at Austin, 1976.

6. Watts, Gordon E. "The Effects of Reality Therapy and Individualized Instruction on the Locus of Control Expectancy of Students in Selected Texas Community College Developmental Education Programs." Department of Educational Administration, University of Texas at Austin, 1976.