The effects of rational emotive therapy on academic achievement for community college probation students participating in a study skills class

Jack John Becherer

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THE EFFECTS OF RATIONAL EMOTIVE THERAPY ON ACADEMIC ACHIEVEMENT FOR COMMUNITY COLLEGE PROBATION STUDENTS PARTICIPATING IN A STUDY SKILLS CLASS

The College of William and Mary in Virginia

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ON ACADEMIC ACHIEVEMENT
FOR COMMUNITY COLLEGE PROBATION STUDENTS
PARTICIPATING IN A STUDY SKILLS CLASS

A Dissertation
Presented to
The Faculty of the School of Education
The College of William and Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

By
Jack J. Becherer
June 1982
THE EFFECT OF RATIONAL EMOTIVE THERAPY
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By
Jack J. Becherer

Approved July 1982 by

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Chairman of Doctoral Committee
Dedication

This research is dedicated to my parents, who helped me begin, Janet, who helped me keep going, and Kelly, who almost made me stop.
ACKNOWLEDGMENTS

Completing the requirements for the Doctor of Education has involved the leadership, cooperation and assistance of many people. To them I wish to express my thanks.

Of particular importance were the members of my doctoral committee. Dr. Geoffroy, Dr. Adair and Dr. Matthews provided leadership and support throughout my years at William and Mary. Dr. Geoffroy can be singled out for assisting me in completing my research under unusual circumstances.

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Chapter I

Introduction

Statement of the Problem

Literature suggests two areas which have been studied to improve the academic performance of unsuccessful students (Chestnut, 1965). The first area examines the symptomatic factors associated with lack of success, such as study habits, curriculum choice, reading skills and management of time. The second area addresses the underlying personal-social nature of the student, characterized by self-concept, level of anxiety, social adjustment and academic motivation. Each of these two major areas can be linked to the development of treatment programs for unsuccessful students. Bednar and Weinberg (1970), in noting the range of treatment programs, list courses in study skills and individual guidance used in conjunction with a study skills course as two programs dealing with symptomatic factors. They note individual counseling, group counseling, and counseling employed in conjunction with remedial instruction as three programs designed to explore the underlying dynamics of success. Robyak (1977) discusses two approaches for the counselor or educator to consider in developing treatment programs for nonachievers. The first approach, labeled the study skills model, assumes that poor academic performance is the result of ineffective study skills, which can be remediated through instruction in effective study skills. This model considers the symptomatic factors associated with lack of success in school by teaching students effective study
techniques in the areas of note-taking, textbook reading, time management, exam preparation, memorization and library usage. The second approach, labeled the counseling model, explores the underlying dynamics of success by assuming underachievement is a result of emotional factors and skill deficits. The counseling model attempts to uncover the motivational or socio-psychological problems that lead to poor academic performance.

Although the study skills model, with its emphasis on symptom removal, is relatively clear cut in the type and nature of treatment programs, such is not the case with the counseling model. The wide array of potential emotional problems that could lead to academic difficulty has led to divergent approaches in working with a student using the counseling framework. Tarpey (1977) studied the effects of communication skills training, Harris (1977) studied the effects of leader initiated confrontation, Richards (1975) studied the effects of monitoring and behavioral self-control and Roth (1967) studied the effects of client-centered therapy on academic success. The diversity of approaches employed within the counseling framework points to the need for researchers to specify the approach within the counseling model that they intend to use in treating unsuccessful students.

Both the study skills model and the counseling model can be implemented on an individual or group basis. The study skills model has typically been associated with the classroom and is most frequently administered to groups. Programs do exist, however, that attempt to address symptomatic concerns associated with lack of success on an individualized basis (Robyak, 1977, Gadzella, 1979). The counseling
model has employed individual and group treatment with equal frequency. Bednar and Weinberg (1970), in a review of twenty-three studies evaluating the effectiveness of treatment programs for underachieving college students, supported the use of group treatment programs for two reasons. They summarized their findings on this issue by stating, "From the standpoint of economy as well as effectiveness, group counseling appears to hold more promise as a treatment method than individual counseling" (p. 6).

Academic probation is a label applied by an academic institution to an unsuccessful student. Colleges employ this label as a last chance warning for the student to improve his/her academic status or to face the consequences of being suspended from school. Although colleges intend for the label of probation to be a source of drive for the unsuccessful student, data indicates that the motivating effects of probation can at best be characterized as weak (Astin, 1975). Some colleges have developed academic support programs to assist the troubled student. Kaye (1972) describes the majority of remedial support programs as consisting of individual counseling, study skills instruction, or group procedures. Kaye goes on to recommend the employment of comprehensive programs for students on probation rather than single, voluntary remedial procedures. Astin (1975) supports the value of providing assistance for students on probation rather than simply assigning a label and expecting a student to reverse his or her unsuccessful academic pattern. Astin states, "The need for more research, particularly by individual institutions on the effect of their own probation policies, is apparent" (p. 149).
The purpose of this study is to examine the effects of the study skills model and the counseling model of working with students on academic probation. The use of rational emotive therapy (RET) techniques, as designed by Albert Ellis (1963), will comprise the specific approach within the counseling model. Both the study skills model and the rational emotive counseling model will be implemented on a group rather than individual basis. The subject populations will consist of students on academic probation at Thomas Nelson Community College who, after being personally contacted, volunteered for treatment. The question that will be examined is this: will the use of rational emotive therapy techniques result in greater academic performance for community college students on academic probation participating in a study skills course?

Need for the Study

Astin (1975) defines academic probation as "a grace period during which students have an opportunity to improve their academic performance" (p. 101). Providing an opportunity to improve academic performance, without providing a support program to assist the student toward this goal, has not proven very fruitful. As previously noted, Astin (1975) describes the motivating effects of the probation period as weak at best. Kaye (1972) describes the typical treatment method for college students on academic probation as a single, voluntary service of some nature. The most common service appears to be voluntary individual counseling; students on probation can take the initiative to contact the college counseling service and request help. Other services occasion-
ally offered by academic institutions are voluntary participation in group counseling or in a study skills class. Kaye's study was unique in requiring failing college freshman to participate in a study skills program. The consensus of the literature indicates that a scarcity of structural support programs exist that require participation or recruit students on academic probation. Friedlander (1980) surveyed 4,764 students participating in California's Extended Opportunity Program and concluded that high-risk students are less likely than low-risk students to seek assistance from academic support programs. His major point is that students most in need of a particular support service may not, if left to their own initiative, take advantage of it. Since the majority of academic support programs are not only voluntary but make little effort to recruit the academically troubled student, a need exists to study the effectiveness of support programs that do make concerted attempts to involve those students who most need assistance.

Not only have the majority of academic support programs provided voluntary assistance to the self-directed student, but the majority of the research on the effectiveness of these support programs has been conducted on four-year college or university student populations. Bednar and Weinberg (1970) reviewed twenty-three studies evaluating the effectiveness of treatment programs for underachieving college students. None of these twenty-three studies examined the effect of support programs for community college students. Recently, research has been published on the effectiveness of academic treatment programs on community college students (Himelstein and Himelstein, 1977; Romano, 1978; Romano and Young, 1981). Nonetheless, studies employing subject popula-
tions from open-door community college institutions are scarce. This is particularly important because the type of student served by a community college differs from the typical student of the four-year college or university. Medskar and Tillery (1971) and Cross (1971) have established the typical community college student as older, more likely to be a member of an ethnic minority, more likely to be from a lower socio-economic level, and more likely to have scored lower on traditional tests of academic achievement when compared to the typical four-year college or university student. Tryon and Sy (1977), in investigating the effectiveness of study skill instruction for students age 23 - 66 participating in an adult bachelor's degree program, state that previous studies in this area have dealt only with students ranging in age from 19 to 23. The scarcity of research on the effectiveness of academic support programs for community college students on academic probation, the differences that exist when comparing the typical community college student with the typical four-year college or university student, and the questionable generality of previous research on academic support programs which employ four-year college or university students who volunteer for treatment, all point to the need to study the effects of academic support programs for community college students on academic probation.

As noted previously, two distinct models exist in developing treatment programs for unsuccessful students. The study skills model assumes that treatment will focus on the symptoms associated with poor academic performance. Thus, it is both a specific and a direct approach. The counseling model has led to a variety of approaches, all designed to
explore the underlying dynamics of failure or, more recently, remediate behavioral skill deficits which result from the underlying dynamics. The divergence of treatment approaches associated with the counseling model has led to some problems. Research evaluating the counseling model's effectiveness on changing academic behavior has often not clearly identified the specific counseling approach employed (Light and Alexakos, 1970). Failure to clearly specify the type of counseling employed in working with students may be responsible for the inconsistency of results observed when studying the effectiveness of the counseling model (Bednar and Weinberg, 1970). Jones, Trimble and Altman (1970) address in the following statement the need for researchers to specify the approach within the counseling model that they intend to use:

"A variety of individual and group counseling approaches has been investigated, but little effort has been directed toward studying the comparative effects of group counseling approaches founded on different rationales and aimed primarily at improving subjects' study behavior performance rather than study skill acquisition." (p. 374)

Prior to 1965, virtually all approaches employed within the counseling model were either psychoanalytically based or humanistic (Berger, 1965; Chestnut, 1965). Robyak (1977) discusses three approaches to working within the counseling model: dynamic counseling, application of behavior modification techniques to the problems of ineffective study, and identifying the relationship between personality factors and study skills course outcomes. Robyak's (1977) review of the literature signaled an important departure of the counseling model's emphasis on the underlying reasons for failure by addressing the behavioral needs of the unsuccessful student. Sharma (1975) and Meichenbaum (1972) have em-
ployed rational, insight oriented, counseling to significantly reduce anxiety with college students. Rational counseling is principally derived from Ellis' (1963) rational emotive therapy techniques. The major thrust of rational counseling is making the student aware of both the negative self-verbalizations and ways by which he or she might inhibit such thoughts.

Although the insight procedure described above has been useful in modifying the cognitions of test anxious subjects, and indirectly improving student performance by reducing anxiety, no research to date exists on the effect of rational counseling on academic achievement outside of the context of anxiety reduction. Valuable information could be gained by expanding the counseling model to consider the effect of a rational counseling approach to working with unsuccessful students.

In summary, a need exists to study the effects of academic support programs for students on academic probation attending a community college. The literature indicates a scarcity of studies in which students experiencing academic difficulties were recruited into support programs. The majority of studies worked with volunteer subjects, many of whom were not having academic problems. Similarly, the majority of studies used four-year colleges or universities for drawing their subject populations. The scarcity of research using community college students on probation necessitates additional study in this area. With respect to the counseling model for working with the unsuccessful student, the use of the cognitive-insight oriented approach based on principles of rational emotive therapy as designed by Ellis (1963) offers a new approach to assisting the student on probation. Previous
studies using the counseling model have either not specified the type of counseling provided, or have employed psychodynamic, humanistic or client-centered theoretical frameworks. Recently, practitioners have begun to employ principles of behavior modification to study difficulties, but with the exception of treating cases of speech and test anxiety, the use of cognitive-insight oriented procedures in treating unsuccessful students remains an untested area. The following section will provide a basis for explaining why techniques employed in rational emotive therapy show promise in working with the student on academic probation.

Theoretical Rationale

Rational emotive therapy (RET) was originated in 1955 by Albert Ellis (Ellis, 1973). Unlike most therapies, RET is basically didactic, teaching clients to analyze and solve their own problems (Maultsby et al., 1974). RET gives man almost full responsibility for his own fate and involves clients maximally in acquiring and maintaining their emotional health. RET can be considered to be a cognitive therapy, focusing on the client's belief systems and the effect that these beliefs have on both emotional and behavioral reactions. The goal of RET is behavioral, however, because a change in the client's belief system will manifest itself in healthier, more satisfying behavioral effects.

Ellis (1973) employs an A-B-C-D-E approach in applying the principles of rational emotive therapy to problem resolution. The first step is to identify the "C", which is a negative emotional or behavioral consequence. People generally believe that "A", an activating experi-
ence of some type, causes "C", the behavioral consequence. RET strives to convince the client that no experience can result in a consequence; rather, "B", an individual's belief system, is responsible for "C". Once a person admits that his/her belief system is responsible for the negative consequence, then Ellis goes on to "D" which is to dispute or change the belief system in order to lead into "E", the development of psychologically healthy or appropriate effects. This system can be applied to the unsuccessful student. A hypothetical example can explain the linkage between RET and the unsuccessful student.

For the unsuccessful student, the negative consequence (C) is poor grades. If a student is asked why he received the poor grades, he is likely to list any of a variety of activating events (A). One student may say that family problems existed, another that the wrong material was studied, another that there wasn't sufficient time to study, and another that the instructor was unfair. The role of the counselor will be to show that none of the above activating experiences, in fact, no "A" whatsoever, could cause poor grades. Rather, the student's inappropriate belief system (B), consisting of expectations that the individual holds about ability, time usage, study habits, or effort applied to succeeding, is causing the poor academic performance. The counselor will attempt to identify the nature of the student's inappropriate belief system, dispute (D) these beliefs, assist the student in changing these beliefs into more accurate conceptions, so that the student can develop appropriate and successful study behaviors (E).

The notion that unsuccessful students have inappropriate belief systems that result in poor academic performance does have some support
in the literature. Berger (1965) used the case-study approach to conclude that college underachievers display a certain pattern of attitudes: high self-standards, an unwillingness to apply effort to studying, a belief that studying should be easy, and an unwillingness to risk. He goes on to state that this attitudinal pattern represents a distorted image of self, and that action needs to be taken to bring the distorted image in closer congruence with the real self in order for the student to reverse his/her academic difficulties. Berger's conceptualization of underachievers as having unrealistically high false assumptions concerning the ease of studying, and distorted images of self provide examples of how inappropriate perceptual systems contribute to poor academic performance. Berger was influenced by Horney (1950) who defined an idealized ego image as representing what one believes or wants oneself to be, or what one ought to be, rather than what one really is. Horney viewed the idealized ego image as allowing a person to attribute to self qualities that he/she does not possess, thus serving as a substitute for a realistic perception of strengths and weaknesses. Only by challenging the idealized image of self, and replacing these faulty beliefs with realistic and accurate conceptions of self, could one begin to maximize his/her human potential. The work of Horney and Berger can be viewed as a precursor to Ellis's development of RET. All three individuals focus on the impact of faulty cognitions on behavior. All three encourage the development of insight into inappropriate belief systems as necessary to changing behavior.

Mischel (1968) has made an important distinction between response learning, defined as what an individual can do, and response perfor-
mance, defined as what an individual does do. The cognitive awareness fostered by an insight oriented therapy like RET can be assumed to bridge the gap between knowledge and usage. Applied to study skills, awareness of one's faulty belief systems and the effect of the belief systems on performance may be a key component differentiating the student who knows appropriate study skills from the student who uses the skills in developing study habits which will consequently lead to improved academic performance.

Sample and Data Gathering Procedures

The population for this study consisted of 141 students from Thomas Nelson Community College who were placed on academic probation for the Winter Quarter, 1981. The sample for this study consisted of those students who expressed a willingness to participate in a study skills class. Students on probation for the Winter Quarter, 1981, were sent a letter inviting them to participate. Included in this letter was a stamped post card which the student was to return to indicate either an interest in becoming involved in the program or no interest in participating. Thirty of the 141 students returned the post cards, twenty-six indicating an interest in the study skills seminars. The ineffectiveness of the mail recruiting effort led to each of the remaining 111 students receiving a phone call by the experimenter informing them about the seminars and offering the opportunity to participate. The combined mail-phone recruiting effort resulted in a subject pool of 63 students. Forty-two subjects participated in the study skills seminars. Twenty-one students expressing an initial interest in participating in the
seminars but who later changed their minds comprised the control group.

The dependent variables of this study were grade point average, student retention and scores on a study habit inventory. Prior to the onset of treatment, each student took the Survey of Study Habits and Attitudes (SSHA) (Brown and Holtzman, 1966). The SSHA is a 100 item self-reporting inventory designed to indicate the student's behaviors and attitudes as they are related to standards of effective study. Access to academic records was employed to obtain each student's grade point average prior to the beginning of treatment. All subjects signed a release for access to academic records and testing. The week following treatment, all subjects were again administered the SSHA. Again, access to academic records was employed to obtain each student's quarterly grade point average following treatment and to determine if the student returned to school during either the Summer or Fall Quarters, 1981, following participation in the study skills program. Those students who did not enroll during either Summer or Fall Quarter, 1981, were contacted by phone to determine the reason for not returning to college.

**Definition of Terms**

The following terms are used throughout the paper and are defined or operationalized in the following manner:

- **study skills model**: a model for treating poor academic performance by teaching the student effective study techniques in key areas.
counseling model: a model for treating poor academic performance by exploring and resolving the motivational or socio-psychological problems of the student.

student retention: the likelihood that a student will return to college during either the Summer or Fall Quarters, 1981, following participation in the study skills program.

academic probation: a label applied to students at Thomas Nelson Community College who obtain a cumulative grade point average below 1.5 on a 4.0 scale after completing a minimum of 12 quarter hours.

academic support program: a service offered by an institution (typically a counseling center) designed to provide academic counseling, guidance, or instruction in study skills to the student population.

high-risk student: a student at Thomas Nelson Community College who is encountering difficulty in succeeding in coursework, as evidenced by being placed on academic probation.

rational emotive therapy: a cognitive-behavioral method of counseling developed by Albert Ellis that strives for client insight into inappropriate belief systems as a precursor to the development of new behaviors based on an appropriate belief system.

quarterly grade point average: a number indicating the average of the grades obtained during a particular quarter.
cumulative grade point average: a number indicating the average of all grades obtained at a particular institution.

Limitations

The following limitations exist due to the sample to be studied and to the specific nature of the treatment approaches.

1. The results of this study pertained to a sample of students from Thomas Nelson Community College on academic probation who were willing to participate in a study skills program. Further research will be needed to determine if the conclusions obtained from this study can be generalized to any of the following:
   a) community college students from other institutions on academic probation;
   b) students enrolled in four-year academic institutions who are on academic probation;
   c) students from Thomas Nelson Community College who are on probation but who do not express a willingness to participate in the study skills program.

2. As stated earlier, community college students are more likely to have scored lower on traditional tests of academic achievement when compared to the typical four-year college student (Cross, 1971). Although random placement into study skills groups should equalize ability across treatment conditions, some subjects may not respond to treatment because of low academic ability rather than lack of involvement in the treatment or lack of success of the treatment approach. The relative effects of the treatment conditions may be
masked to some extent due to the participation of subjects whose ability is too low to succeed in college coursework.

3. The two treatment approaches will compare students participating in a study skills course combined with training in rational emotive therapy (RET) with students taking a study skills course without training in RET. No attempt will be made to compare the relative effectiveness of specific approaches within the counseling model. Further research is necessary to evaluate the relative effectiveness of a cognitive-insight oriented counseling approach when compared with client-centered, psychodynamic or behavioral counseling approaches to working with students on academic probation.

4. For the purpose of this study, the term student retention has been defined as the likelihood that a student would return to the college during either the Summer or the Fall Quarters, 1981. This measure of short-term retention may vary due to the effect of summer breaks on returning to college, which could lower the overall percentage of students deciding to remain in school. Also, since retention is being assessed on a short-term basis, a need exists to study the long-term effects of academic support programs on student retention.

General Hypotheses

1. Study skills classes with rational emotive therapy (RET) will be more effective than either study skills classes without RET or a control group in improving the academic grade point average of probation students.
2. Study skills classes without RET will be more effective than a control group in improving the academic grade point average of probation students.

3. The Survey of Study Habits and Attitude (SSHA) scores of students in the study skills classes with RET will be greater than those of students in either the study skills classes without RET or a control group.

4. The SSHA scores of students in the study skills classes without RET will be greater than those of students in the control group.

5. Students in the study skills classes with RET will be more likely to register for college during the quarter following treatment than students in either the study skills classes without RET or the control group.

6. Students in the study skills classes without RET will be more likely to register for college during the quarter following treatment than students in the control group.
Chapter II

Review of Related Literature

Historical and Theoretical Overview

Introduction

Attempts to develop appropriate study skills among students have been ongoing for over fifty years. Laycock and Russell (1941) reviewed thirty-eight how-to-study manuals which were written between 1926 and 1939. Blake (1955) examined a variety of study skill programs developed in the early 1950's. Bednar and Weinberg (1970) evaluated twenty-three studies dating from 1927 to 1968 designed to assess the effectiveness of treatment programs for underachievers. Mitchell and Piatkowska (1974) examined forty-nine study groups, reported in twenty-nine research projects, to determine if treatment type, duration, structure, client motivation or counselor experience are related to significant improvement in academic performance. Early attempts in developing study skills emphasized cognitive skill development rather than treating the underlying personality dynamics associated with academic failure. How-to-study manuals written prior to 1945 emphasized topics such as exam preparation, memorization, reading habits, outlining and note-taking. The absence of empirical studies forced the writers of manuals and the developers of study skill programs to create products on the basis of their own experiences. Blake (1955) concluded that a majority of the programs he reviewed were developed in a haphazard fashion without benefit of the experience of others.
The development of the SQ3R (Survey, Question, Read, Recite, Review) technique for study reading by Robinson (1946) signaled a major development in the study skills field by advocating methods which form the basis of most current study skills programs (Hoon, 1974). Robinson's textbook *Effective Study* (1946) provided a structure from which empirical research could occur in the area of study skills. The SQ3R method of study reading led to the development of the study skills model by advocating a simple, usable method of learning and retention.

The counseling model developed under the assumption that although study techniques were important factors in academic achievement, the real problem in substandard academic performance can be attributed to underlying personal or social problems that the student has encountered. Advocates of the counseling model state that study techniques will not be employed by students who do not possess the appropriate psychological framework or motivational set. Both models have merits and liabilities, and both models have made significant contributions in students' efforts to learn. The format of this overview will consist of significant research on each model, a critique of each approach, and an evaluation and summary of the research and its relationship to the present study.

**The Study Skills Model for Effecting Successful Academic Performance**

Robyak (1977) describes the notion behind the study skills model by stating that "marginal academic performance is a result of ineffective study skills which can be remedied through instruction in effective study skills" (p. 171). The study skills model is simple in its rationale and straight-forward in its treatment program. Students fail in
their classes because they do not know the proper techniques to study. Teaching skills in note-taking, exam preparation, textbook reading or time management will provide the necessary tools for the student to learn the material. This approach is symptomatic in that there is no concern for why the student does not know how to study. It is also assumed that knowing study techniques will lead to using study techniques, an assumption that will be discussed in another section of this paper. The study skills model has led to the development of how-to-study manuals, courses in study skills, student-instructor guidance on appropriate study techniques and research evaluating the usefulness of the model in affecting student performance. A representative sample of this research will illustrate the efforts in this area.

Whitehill (1972) discusses the development of a learning skills program combining information organization with reading skills to increase the grade point average of college students. Whitehill's program is based on a three-level model of learning skills. The first level deals with general intelligence and is invariate. The second level consists of the way information is organized. This level deals with study and organizational skills, is teachable, and is considered imperative to maximizing level one, innate ability. The third level is thought of as subject specific. Whitehill employs Robinson's SQ3R method of organization (level 2) to a reading development program (level 3) to increase student grade point average. For Whitehill, the way information is organized (level 2) is the most important stage, because it is this stage that is chiefly responsible for retention of knowledge.
Hoon (1974) studied the comparative effects of reading, reading with underlining and reading with note-taking on undergraduate college males. Although the post-test results indicated that the reading with underlining group scored higher than the reading with note-taking group who scored higher than the reading group, none of the differences between groups was significant, and the time devoted to underlining or note-taking was much greater than the time devoted to reading alone. Hoon concludes that the value of note-taking or underlining is questionable, and implies that future research might be better aimed at improving verbal ability rather than developing study skills.

Federico (1972) studied the effects of voluntary and required enrollment in a study skills program. The study skills program was a concentrated effort to improve study habits and skills by focusing on preparing for exams, using the library, writing reports, organizing materials and increasing reading comprehension. Federico found that volunteer status was not a significant factor related to the effectiveness of the study skills program. Participants in the program did report better study habits and attitudes, but they did not demonstrate significant increases in academic performance when compared to controls.

Silverman (1974) also conducted research on the study skills model which did not culminate in completely favorable findings. Silverman studied the effects of a 12 week, noncredit course designed to assist high-risk freshman in acquiring appropriate study skills, habits and attitudes. Although the experimental group did report significantly better study attitudes when compared to the control, no difference was reported on grade point average, leading the researcher to conclude that
the course did not have a positive effect on academic performance.

Brown, Wehe, Zunker and Haslam (1971) and Gadzella (1979) both studied the effects of student-to-student counseling on the academic adjustment of potential college dropouts. Although the term "counseling" was used in both studies, the student "peer" counselors really provided academic survival information, study techniques and guidance to high-risk students using a textbook (Brown, 1970) which adheres to the tenets of the study skills model. The results of both studies indicated that the potential dropouts showed significant positive changes in study knowledge and study attitudes, in addition to making significantly better grades. Furthermore, Gadzella found the peer counseling approach superior to a study skills class, probably because of the individualized attention that occurred in the student-to-student approach.

Tryon and Sy (1977) employed the study skills model in developing a course for adults (age 23 - 66) returning to college in a bachelor's degree program. The major goals for this course were to improve academic skills and decrease concern about school and studying. An evaluation of the course indicated that participants significantly improved their study habits and also had fewer concerns about returning to college as a result of the study skills instruction.

In summary, the research on the study skills model appears mixed. The majority of studies do demonstrate that students participating in a study skills class will score higher on a self-report study inventory than a control group. Few studies report significant increases in academic performance (GPA) as a result of study skills instruction. It appears that the techniques employed under the study skills model do
effectively increase participant knowledge of study techniques and improve subject attitude toward school. Whether they positively affect academic performance is not as clearly demonstrated in the literature.

Critique of the Study Skills Model

Robyak (1977) states that the study skills model is built upon two assumptions, both of which lack empirical validation. The first assumption is that the unsuccessful student can be distinguished from the successful student by examining the study methods of each group. Although studies have shown that there are statistical differences between successful and unsuccessful students (Brown and Holtzman, 1955; Carter, 1948), it is difficult to list these differences in terms of specific study behaviors employed by each group. In other words, we have no empirical basis for believing that the unsuccessful student fails because of poor skills in note-taking, test taking, or textbook reading. Similarly, research does not support the notion that the successful student does well because study skills are employed. The dynamics of achieving academically are more complicated than simply using good study techniques.

A second assumption of the study skills model is that ineffective students will reverse their academic pattern by learning study skills. Studies noted in this paper (Federico, 1972; Silverman, 1974) demonstrate that knowledge of appropriate study techniques does not always lead to improved academic performance. Weigel and Weigel (1967) used the Survey of Study Habits and Attitudes (Brown and Holtzman, 1953) to show that college students with low grade point averages know effective
study skills and did not need to be taught them. These authors emphasize that a skills program must focus on both knowing and using study techniques. Entwisle (1960), in a review of study skills courses, disputed the notion that the content of a study skills course accounted for the course's effectiveness.

In summary, the study skills model may be overly simplistic by assuming that the acquisition of study techniques will improve academic performance. The key area of difficulty appears to be that knowing what is an appropriate skill does not lead to using that skill. Mischel (1968) notes this issue by distinguishing between response learning and response performance. Learning the study technique does not lead to the development of a study habit. The counseling model, especially in recent years, has emphasized the application and use of study techniques to a greater extent than the study skills model. A review of representative research within this model will illustrate the differences between the counseling and study skills approaches, as well as highlighting strengths and weaknesses of the counseling approach to improving academic performance.

The Counseling Model for Increasing Academic Performance

Chestnut (1965) states that the counseling model assumes poor academic performance results from problems "of an underlying personal-social nature characterized by self-concept, relationship to parents, expression of impulses, social adjustment, academic motivation and anxiety level" (p. 388). The basis of the model is to develop counseling opportunities which are designed to provide assistance with the
underlying personality dynamics of underachievement. The assumption exists that academic performance will improve if the student gains insight into the problem and is provided with the process to initiate behavioral change.

The majority of the early efforts to study the counseling model employed either a psychodynamic or client-centered approach to the problem of academic failure. Roth and Meyersburg (1963) developed a theory based upon three distinct types of underachievement (the neurotic, the nonachievement syndrome, and the adolescent reaction) which postulates that at different ages a child meets with different types of problems, any of which could manifest itself in underachievement. One of the three types of underachievement, the nonachievement syndrome, was developed with the belief that the college student unconsciously chooses to do poorly in school to maintain dependency ties with the family. Roth, Mauksch and Peiser (1967) employed the dynamics of the nonachievement syndrome in group therapy to significantly increase the academic functioning of students on probation. Rubin and Cohen (1974) used brief group therapy within the framework developed by Roth and Meyersburg to significantly decrease the attrition rate of students in a nursing education program. Chestnut (1965) worked within a client-centered framework to determine that study groups which were counselor structured resulted in a significantly greater rate of change in GPA than study groups that were student structured. However, a follow-up study by Chestnut and Gilbreath (1969) employing the same client-centered framework revealed no differences between counselor structured or student structured groups in grades obtained.
Many of the studies evaluating the effectiveness of the counseling model do not identify the specific counseling approach applied to treatment. McCune (1970), in an investigation of the efficacy, implementation, and effectiveness of college study skills programs, notes that evaluation of study skills programs is hampered because most programs are unstructured and based on individual student needs. He goes on to state that many studies document the effectiveness of the counseling model without specifying the type of counseling that was provided. An example of one such study would be Light and Alexakos's (1970) research on the effects of individual and group counseling on improving the study habits of high school sophomores. The counseling approach was undefined, except that it was unstructured and allowed students to ventilate. The results indicated scores on a study habit inventory were positively affected, as were grades in English, while grades in geometry were unaffected.

Another study using the counseling method but failing to identify a specific approach was Roy's (1971) dissertation on the effects of group achievement counseling for underachievers. Roy studied the processes employed and the outcomes of a high school counseling program for underachieving students. Although Roy reported a high level of student participation, results indicated that the group counseling program was not successful in reducing failure.

Some researchers have chosen to study a particular element within the counseling process rather than to evaluate a particular counseling theoretical approach as it applies to unsuccessful students. Tarpey (1977) studied the effects of communication skills training on the
academic achievement of students participating in a study skills course to conclude that training in communication skills did not increase academic performance. Harris (1977) investigated the differential effects of leader-initiated confrontation on the academic achievement of college students. Harris found that students who participated in the leader-initiated confrontation study skills course improved more than students in a basic study skills class although the difference was not significant. Hoopes (1969) studied the effects of structuring goals in the process of group counseling for academic improvement. Goal structuring identified, specified and set minimum levels of performance for college students on probation. Hoopes found no significant differences on any of four outcome measures between groups that did or did not use the goal structuring process, but did find significant differences between treatment and controls on GPA, number of hours studied per week, and number of "C" or better grades obtained in courses. Hoopes research is distinctive in finding a significant difference between treatment and control groups on criterion variables that can be labeled as other than attitudinal. Mitchell and Piatkowska (1974) reviewed twenty-nine studies to conclude that research assessing the effect of treatment targets, defined as specific behaviors that the counselor strives to change, have been ineffective in increasing academic performance. Mitchell and Piatkowska label treatment targets as intellective, if their purpose is to change study skills, and nonintellective, if they are directed toward interpersonal relations, anxiety reduction, life skill development or self-concept formation. Attempts to change particular elements within the counseling process would fall under the
category of nonintellective. The majority of such studies do not report significant changes on criterion variables such as grade point average. Many studies, including Tarpey (1977) and Harris (1977), report small increases in academic performance as a result of their counseling intervention. Significant changes in study attitudes, as indicated by student self report inventories, are more common. Hoopes' (1969) finding of significant differences between treatment and controls on grades, number of hours studied, and number of "C" or better grades earned is noteworthy and points to the importance of goal setting in working with students requesting academic counseling.

The results of research employing principles of behavior modification to develop study habits have been encouraging. Behavior modification, perhaps more than any other counselor intervention, focuses on habit formation and skill development rather than on the underlying dynamics or upon the acquisition of insight. As such, behavioral techniques could be effective in increasing the use of study skills rather than fostering a knowledge of study techniques. Kunce, Brunch and Thelen (1974) employed a modeling strategy labeled vicarious induction to significantly increase test scores, educational persistence and class attendance in disadvantaged adults. Vicarious induction involved observing models depicting specific achievement skills and attitudes. The authors of this study concluded that substantial behavioral change can be induced vicariously from observation of an appropriate role model.

Jones, Trimble and Altman (1970) compared model reinforcement group counseling, desensitization group counseling and client-centered counseling on college students' academic performance. Model reinforcement
group counseling was a combination of operant conditioning and positive reinforcement focusing on aspects of effective study. The desensitization group counseling focused on anxiety reduction experienced relative to exams. The client-centered approach was nondirective and insight oriented with the goal of changing ineffective study attitudes. Although no differences in observed study performance were reported, both the model reinforcement group and the desensitization group scored significantly higher on a study habit inventory, while no differences were discovered between the client-centered group and the control.

Harris and Johnson (1980) assessed the comparative efficacy of individualized covert modeling combined with study skills training, self-control desensitization with study skills training and study skills training alone as treatments for test anxiety. Both the behavioral techniques of modeling and desensitization, combined with study skills training, significantly reduced test anxiety. In addition, the individualized covert modeling group showed significant improvement in academic performance. The subjects trained in study skills techniques without any type of behavioral intervention demonstrated no decrease in self-reported test anxiety nor any increase in grade point average.

McReynolds and Church (1973) compared self-contracting, a self-control behavior modification technique, with study skill development and individual counseling. Results indicated that students in self-contracting and study skill development reported significantly higher scores on the SSHA when compared to controls, but no differences were reported on improved academic performance. Briggs, Tosi and Morley (1971) combined the Premack principle of psychological conditioning with
study reading techniques to increase the chance of success for high-risk college females. The Premack principle suggests that the student reinforce a low probability behavior, such as study reading, with a high probability behavior, such as listening to music. High-risk students exposed to the treatment procedures demonstrated significantly higher GPA's than a comparable control group.

In summary, the application of behavior modification techniques to increase the performance of appropriate study behaviors does show promise. The key advantage of behavioral techniques over client-centered or psychodynamic methods appears to be that behavior modification focuses on overt application of study behavior rather than on introspection of problem areas. Viewed in this manner, the use of behavior modification techniques is similar to Hoopes' attempts to develop goal structuring for academic improvement. Both the behavioral methodology and the Hoopes design focus on the development of concrete tools that, if employed, will result in increased use of study techniques. The effectiveness of behavioral techniques in increasing academic performance has been mixed. A possible reason for the mixed results, and a major criticism of behavioral methods, is that they often do not take the subject's motivational set into account. Beneke and Harris (1972) note that all self-control programs depend on the strength of the student's commitment to change. Until advocates of behavioral procedures take the student's desire to work and to apply the procedures into account, the results of attempts to use behavior modification to increase student performance will be varied.

A final counseling method deserves mention. Meichenbaum (1972)
compared group cognitive modification and group desensitization to a control group in treating test anxious college students. Cognitive modification is an insight-oriented treatment procedure principally derived from the rational emotive therapy techniques of Albert Ellis. Meichenbaum found that the cognitive modification group resulted in a significant reduction in test anxiety and a significant increase in GPA. Sharma (1975) used a similar process of rational group counseling to significantly reduce irrational beliefs and to display a significant increase in the school marks of anxious underachievers. Although the use of insight-oriented therapy has yet to be directly applied to treating poor academic performance among nonanxious poor achievers, the success of this method in reducing test anxiety, and subsequently, increasing GPA makes this approach quite promising.

In summary, attempts to increase academic performance by working within the counseling model have assumed many different forms. Psycho-dynamic, client-centered and behavioral approaches have been used to modify student behavior. Recently cognitive, insight-oriented therapy has been used in treating test anxiety. The majority of studies demonstrate student improvement in self-reported study habits and attitudes, while some studies have resulted in an increase in student grades. Attempts to study the effect of one element within the counseling process (goal structuring, confrontation, communication skills) have demonstrated mixed results in affecting performance. Some researchers have studied the effects of "counseling" without defining the process. Seldom have such undifferentiated studies culminated in positive results. The following critique of the counseling model will attempt to
consider the strengths and weaknesses from a general, rather than specific, nature.

Critique of the Counseling Model

The major assumption of the counseling model is that insight into one's problems and resolution of these problems will create a psychological state in which a student can be academically successful. This assumption, though intuitively pleasing, is difficult, if not impossible, to verify. Studies employing group counseling strategies (Chestnut, 1965; Roy, 1971; Light and Alexakos, 1970) have employed criterion variables of grade point average, change in study habit and attitude inventories, or improvement in English grades to determine the effectiveness of the counseling intervention. No studies have tried to determine if the subject gained greater insight into personal problems. Although research on the effect of group counseling on academic performance assumes that lack of insight or personal problems lead to academic difficulty, these studies have measured treatment effects with academic or attitudinal indicators rather than on the basis of personal growth or solving internal difficulty. Positive results could be attributed to many factors, such as participation in a group, input from peers, or reassessment of educational priorities, rather than increased insight or problem resolution.

A related criticism is that many researchers applied treatment without attempting to determine if the treatment intervention was successful. Berenson and Carkhuff (1967) have documented the differential effects of any kind of psychological intervention. If treatment
can be for better or for worse, then the possibility exists for group counseling to have either a positive or a negative perceived impact by the subjects participating in the research. Failure to consider whether or not treatment was effective, while assessing academic performance or other criterion variables under the assumption that the treatment worked, could lead to erroneous interpretations of the data. It is possible that the inconsistency in results that has been noted earlier in this paper, when considering the effectiveness of group counseling on academic performance, could in part be due to the differential effectiveness of any treatment intervention rather than because the intervention was or was not effective in facilitating academic performance.

The assumption that personal problems are the cause of poor academic performance appears overly simplistic. McCune (1970), in a descriptive study involving 296 students who voluntarily enrolled in an effective study program, found lack of study skills, reading ability, personal or vocational problems and inadequate academic motivation to be four major reasons why college students do not succeed academically. Cross (1976) speculates that there are five factors involved in poor academic performance: low academic ability, socio-cultural factors, inadequate development of fundamental skills, poor study habits, and psychological-motivational impediments to learning. Clearly, only one of these five causes pertains to the counseling model. On the positive side, studies do exist that support the notion that modifying emotional patterns will result in improved performance (Chestnut, 1965; Rubin and Cohen, 1974). Although the assumptions behind the counseling model appear to have some legitimacy, it would be erroneous to state that it
provides the solution to resolving poor academic performance.

Behavioral attempts have extended the original counseling model by developing techniques that can be used to induce and maintain study behaviors. The major criticism of behavioral attempts is that they tend to be symptomatic in that they fail to deal with the student's willingness to work and motivation to improve. Most unsuccessful studies employing behavioral techniques can be traced to the false assumption that students will apply the behavioral methods being examined. Beneke and Harris (1972) found that although their behavioral treatment program was successful, only 17 percent of the students in their study completed all treatment sessions. Robyak (1977) summarizes the value of behavioral approaches within the counseling model by stating that although the techniques are effective in increasing the use of study skills and in improving GPA's, a strong, overt decision to change behavior must be made by the student.

Summary of Overview and Relationship to Problem

In reviewing the research on both the study skills and the counseling model for increasing academic performance, few clear trends emerge. It appears that well designed studies employing either of the two frameworks will result in improved study habits and study attitudes, as measured by a self-report inventory, but relatively few studies using either model have resulted in significant increases in academic performance. To date, research comparing the relative effectiveness of the two models has been inconclusive. Tarpey (1977), in a study of 91 undergraduate students, found no difference in the grade point average
of study skills groups with or without training in communication skills. Harris and Johnson (1980) found that a treatment procedure of individualized covert modeling, combined with study skills training, resulted in significantly higher academic performance, while self-control desensitization, combined with training in study skills, or study skills training alone, did not result in increased GPA. Bednar and Weinberg (1970), in a review of twenty-three studies evaluating the effectiveness of various treatment programs for underachieving college students, concluded that a successful treatment program should include the following dimensions:

1. **Duration**
   
   It should be lengthy (at least ten hours of treatment) rather than brief.

2. **Structure**
   
   It should be structured (designed and directed by a leader) rather than open-ended and student-led.

3. **Facilitative Conditions**
   
   It should have high levels of the therapeutic conditions of empathy, warmth and genuineness.

4. **Combined Treatment Approaches**
   
   It should employ both an academic skills program and counseling aimed at the dynamics of underachievement.

Of the twenty-three studies Bednar and Weinberg evaluated, 57% were labeled successful, 26% tended toward effectiveness, and 17% produced inconclusive or negative findings, from the vantage points of two reviewers. The presence of the four dimensions of treatment duration, high structure, facilitative conditions, and combined treatment
approaches increased the likelihood that a study would succeed in enhancing academic performance. A later review by Mitchell and Piatkowska (1974) disputed many of Bednar and Weinberg's findings. In a review of twenty-nine studies, including forty-nine study groups, Mitchell and Piatkowska concluded that only eight of the forty-nine groups (16%) showed significant increase in pre-post grade point average. They view Bednar and Weinberg's conclusions as overly optimistic and attribute them to a review of heterogeneous treatment programs. Furthermore, six of the eight positive outcomes of the forty-nine study groups Mitchell and Piatkowska reviewed came from unstructured, nondirective forms of treatment, leading the authors to question the dimension of high structure as a key element of successful treatment programs. Finally, Mitchell and Piatkowska found lengthy treatment programs, defined as at least fifteen hours, appear to be effective with failing underachievers, while programs of medium length, defined as five to fifteen hours, possess some effectiveness with underachievers who are passing their college courses.

Thus, two major reviews of research on the effects of group treatment on academic performance of college students do not come to the same conclusions. The two reports differ on the importance of structure, although it is important to note that the majority of the forty-nine study groups reviewed by Mitchell and Piatkowska were unstructured, thereby increasing the likelihood that the majority of successful treatment groups would be unstructured. The two reviewers reach basically the same conclusion on the effects of treatment duration. Mitchell and Piatkowska also emphasize the importance of client motivation, while
Bednar and Weinberg stress the importance of combining study skills and counseling approaches and the presence of the facilitative conditions within the treatment groups. Mitchell and Piatkowska's research is the more rigorous of the two reviews, labeling a treatment program effective only if the study reports a significant increase in grade point average. Mitchell and Piatkowska summarize their feelings about the review by stating "Practical gains from published literature are so low that an urgent need for better treatment programs is indicated" (p. 500).

With respect to the Bednar and Weinberg review, programs that have combined elements of both the counseling and the study skills model have led to encouraging results. Whyte (1978) combined study skill instruction, group counseling and individual locus of control counseling to significantly increase the GPA of high-risk college freshman. Kaye (1972) studied the effects of requiring participation in an academic support program for failing college freshman. His treatment procedure of eclectic individual counseling, group guidance and academic skills training resulted in a significantly superior GPA when compared to a comparable control group. Dubocq (1981) describes an academic alert system recently developed by Miami Dade Community College that requires students with grade point averages below 1.5 to sign up for courses in study skills, time management and career direction, in addition to having mandatory meetings with counselors or advisors. Students taking advantage of this academic alert system improved their GPA by an average of 0.88, whereas those who did not use the system experienced a continued decline in GPA. The academic alert system at Miami Dade is but one example of a college combining counseling and study skills classes
to increase retention of the unsuccessful student.

The combined treatment programs, although leading to positive results, are lengthy in duration and expensive to administer. Robyak (1977) advocates individualization of treatment plans based on a thorough assessment of each student's study strengths, weaknesses, and areas of need. In an era of reduced funding for counseling programs, individualized treatment for probation students will likely result in detailed service to a few clients rather than attempts to assist the large numbers of academically troubled students at any collegiate institution. Bednar and Weinberg (1970) indicate that group approaches hold more promise than individualized approaches from the standpoint of economy as well as effectiveness.

As researchers continue to study the effects of combining academic skills training with counseling procedures, the distinctions between the study skills and the counseling model is becoming less clear-cut. Counselors are often the instructors of study skills courses, using their professional training and experience to teach study skill development. The application of behavior modification techniques to study skills has increased the use of study methods such as SQ3R. Bednar and Weinberg (1970) have noted that the study skills model is ineffective by itself, but effective when used as an adjunct to counseling.

The impact of the application of cognitive insight-oriented therapy on improving academic performance is untested, but the possibility of this approach leading to positive results is strong. Meichenbaum's (1972) research on cognitive modification of test anxious college students has displayed the positive effects of insight-oriented therapy
in affecting student behavior. Rational emotive therapy is a process to
develop insight and direct this insight into specific behavioral change.
As such, it incorporated the best elements of the dynamic and behavioral
therapies toward increasing academic performance. The cognitive-behavioral nature of RET may be the ideal procedure to treat the ineffectiveness of student.

In summary, a review of the research supports attempts to treat
ineffective student behavior by combining the counseling approach of
rational emotive therapy with instruction in study skills. The dimensions of a successful treatment program, as outlined by Bednar and
Weinberg (1970) and Mitchell and Piatkowska (1974), should be incorporated into the development of the treatment strategy. Finally, a group oriented program has economic advantages over individualizing treatment, in addition to being as effective as the individualized counterpart.

Review of Research

Design aspects in study skills research have not received as much
attention as have attempts to explore particular research problems. The
majority of studies have been designed to improve academic performance
of students participating in college courses. As such, these studies
have taken place in natural settings as opposed to laboratories, allowing for the interference of events or activities which could confound the experimental design. Mitchell and Piatkowska (1974) are very critical of the quality of research that has been characteristic of attempts to treat college underachievers. They state that real practical benefits from study skills research will be derived only if six methodologi-
cal recommendations are followed. These recommendations are as follows:

"(a) develop treatment rationales aimed at more appropriate target behaviors, (b) increase the precision and meaningfulness of research questions, (c) increase the degree of methodological control and access the base rates of no-treatment subjects uncontaminated by the effects of alternate treatments, (d) allow replication by more specific descriptions of client and counselor characteristics and of treatment operations and by reporting the separate effects of each technique, (e) report improvement rates based on number of individuals rather than group averages, and (f) specify the practical importance and limitations of their findings." (p. 500)

Essentially, Mitchell and Piatkowska are advocating increased precision and rigor in research designs on the effect of treatment programs for unsuccessful college students. It appears that they would support the application of the physical science-laboratory model of research methodology to treating underachievers. Recently the application of the physical science model to the science of human behavior has been criticized (Pine, 1981; Minor, 1981; Sprinthall, 1981). The views of these authors on the appropriateness of the physical science model to research problems in the counseling field are summarized by Pine (1981). "The disparity between the real life problems suggested by the front line work of counselors in the schools and the awareness that experimental and quantitative research designs no longer work in all cases has raised a number of questions about the appropriateness of traditional experimental research approaches" (p. 495).

Pine goes on to note three major problems in applying the experimental method of evaluating outcomes of a counseling approach, each of which has particular relevance to research in the area of study skills. First, the application of the experimental design requires that experi-
mental and control conditions be held constant throughout the length of
the experiment. Bednar and Weinberg (1970) identified duration, defined
as a minimum of ten hours of treatment, as one of the key elements of an
outstanding study skills program. The longer the treatment, the more
difficult it is to hold the experimental and control conditions con­
stant, and the more susceptible the study is to the effects of histori­
cal events confounding the results.

A problem related to length of treatment program is maturation
effects. Repeatedly failing in courses, being placed on academic proba­
tion, or perceiving the need for academic assistance may be significant
events in the life of a student that could alter his/her approach to
studying, either in a positive or negative way. Maturation effects are
positively related to the length of the treatment program and the
severity of the client population, and can be viewed as another source
of experimental contamination in study skill research.

Pine's second major criticism of the experimental method when
applied to research on human behavior is that it yields data about the
effectiveness of a counseling approach after the fact. The experimental
method is useful as a summative device, but not as a decision making
tool. Applied to research in study skills, after-the-fact information
may be of little use to students who need immediate assistance or risk
failing out of college. The use of a no treatment control group, fre­
quently advocated by the physical sciences, poses a related problem. It
is often impractical and potentially unethical to withhold assistance
from students in need to determine the effectiveness of a particular
treatment program. It is impractical because school administrators will
seldom allow a group of people needing assistance to be denied this help for the sake of research. It is potentially unethical because counselors have a primary responsibility to assist their client population. Their responsibility to research would seldom be viewed as more critical than serving those in need.

The third major weakness noted by Pine is that the experimental method is typically used to study discrete elements of a problem. The results of research on isolated factors seldom apply to the counseling context, where the reasons for change may be varied and complex. It is difficult to control extraneous variables in order to study an isolated variable in a school setting. Effects of parents, peers, teachers, or significant others could confound the effects of independent variables for better or for worse.

The three weaknesses cited by Pine apply to most research situations in which the experimental method characteristic of the physical sciences is applied to research on human behavior. Two concerns related to research design as applied to the field of study skills remain to be noted. One such concern is the effect of experimental mortality. Many studies assessing the impact of voluntary participation in group treatment programs designed to affect academic performance have suffered severe experimental mortality. Hoopes' (1969) research, cited earlier for the positive impact of goal setting on grade point average, lost twenty-seven of sixty-four subjects to attrition. Beneke and Harris (1972) had only seventeen percent of their subjects complete all treatment sessions. The results of these studies are questionable when the motivating effects of the treatment procedure are so weak that attrition
became a significant issue.

A final concern for the internal validity of research on studies skills deals with the effects of repeated testing. The majority of studies have used one of two study habit inventories, either The Survey of Study Habits and Attitudes (Brown and Holtzman, 1966) or The Study Habit Inventory (Ryan, 1966). The effect of the pre-test on the post-test is a confounding factor with either instrument, pointing to the desirability of multiple criterion measures, some of which are not contingent upon student self-report.

A major reason for the present study is that the majority of previous research, using four-year college populations, and often employing students who are not in academic difficulty, may not be generalizable to community college students on academic probation. The subject population of previous research studies differs from that of the present study, and the applicability of earlier research to high risk community college students must be questioned.

Although the theoretical concepts that have been studied in the literature are many and varied, the divergence of concepts has been adequately explored in the previous section and will not be presented here. The type of experimental treatments, populations to be studied, and statistical methods employed are all relatively similar. From the viewpoint of the author, one of the best designed studies in the literature is that of Jones, Trimble and Altman (1970). The method of this study will be discussed as representative of research in the study skills area. Dissimilarities between other research and that of Jones et al., will be pointed out, as appropriate.
Jones, Trimble and Altman (1970) studied the effects of improving college students' performance through group counseling. Their subject pool, not unlike the majority of studies in this area, was college freshman. Some studies (Kaye, 1972; Briggs, Tosi and Morely, 1971; Hoopes, 1969) have worked specifically with students on academic probation or students who have been labeled "high risk". The treatment procedure consisted of three group counseling techniques designed to help students improve their study performance when compared with each other and with control groups. Counselor effects were controlled by having each counselor conduct each of the three group techniques. (This study is atypical in noting a control of this nature.) Jones, Trimble and Altman were also atypical of other study skills research by using two control groups. One control group received written study skills material but no counseling. The other control received no treatment at all. Both control groups were obtained from a waiting list of students. The waiting list control, although not employed in many study skills research designs, appears to be one of the best ways to control for motivational differences between students participating in treatment and those who do not participate. Each treatment group met for seven, fifty-minute sessions. Although the length of each session is not unusual, the number of sessions falls short of the majority of academic counseling groups.

Jones, Trimble and Altman (1970) employed multiple criterion measures, consisting of observed study performance, two self-report study inventories and a test anxiety scale. This study is unusual in not considering GPA as an outcome variable. Whyte (1978), Harris and
Johnson (1980), Chestnut (1965) and Kaye (1972) provide a sample of studies that consider GPA as one of their dependent variables. The outcome measure of observed study performance required students to record their performance for seven days, including the frequency and quality of their various study behaviors. Although this attempt to record student study time would yield valuable data, Jones et al. were not successful because of insufficient returns and student expressed difficulty in keeping consistent records.

Some mention should be made of the use of study habit surveys as criteria measures. Jones, Trimble and Altman (1970) employed both The Study Habits Inventory (Ryan, 1966) and The Survey of Study Habits and Attitudes (Brown and Holtzman, 1966). The previous historical overview indicated that the majority of research studies do employ a study habit survey of some type, and that most studies do note improvement from pre- to post-testing, or superiority of the treatment when compared to the control group at the study's completion. Both of the surveys employed by Jones et al. are self-report inventories reporting high test-retest reliabilities (.85 - .92) and impressive correlations with grade point average (.65 - .66). The use of self-report measures represents a less direct way of assessing a student's study performance, and since the relationship between these instruments and academic performance is far from perfect, one must assume that these surveys are measuring a student's perception of study effort rather than actual effort expended. Draheim (1974) determined that attitude toward education, as measured by The Survey of Study Habits and Attitudes (Brown and Holtzman, 1966) is not a powerful nonintellectual predictor of academic success.
theless, self-report instruments do supply valuable information concerning student's perceived study habits and attitudes, and they are useful tools when used in conjunction with other outcome measures.

Jones, Trimble and Altman's (1970) statistical analysis was not representative of the research field since they did not have computer programs available to conduct analysis of covariance. Typical post treatment analyses employ a covariance model across treatment groups using the pre-test score as the covariate (Harris, 1977; Tarpey, 1977). When comparisons of treatment means are warranted as a result of the analysis of covariance, post hoc methods such as Duncan's Multiple Range Test have been employed. Light and Alexakos (1970) employed analysis of variance on the differences between post and pre-counseling scores across treatment groups. Harris, Peterson and Tarpey (1978) used related t-tests for pre and post comparisons of the dependent variables in their study.

Summary of Research and Relationship to Problem

The nature of the present study, like many of the research projects previously discussed, is to evaluate the effectiveness of a particular type of academic support program. As such, a natural setting for the project is required and potential threats to internal validity do exist. The treatment conditions took place over an eight-week period and were subject to the effects of historical events. The subjects in the present study were recruited and asked to participate. All of the participants were in academic difficulty. Either of these factors could alter the student's approach to studying, thus creating a situation in
which maturation effects were possible. Students who did participate in the study were given one college credit for their involvement. This college credit served to reduce attrition and lessen the effects of experimental mortality. The Survey of Study Habits and Attitudes was employed in this study as an outcome measure on a pre-post treatment basis, thus creating a potential validity threat due to repeated testing. Additional outcome variables of GPA and student retention were employed in order to reduce the likelihood of over-interpreting the results based on a single instrument.

The similarities between elements of the present study and the research elements previously discussed will be the subject of Chapter 3. In accordance with the review of research, the present study controlled for counselor effects by having each counselor conduct each of the treatment conditions.

The counselors were aware of the research questions involved. Each counselor had more than two years of training in study skills. In addition, counselors were trained in the application of rational emotive therapy to the study skills groups. The control group consisted of students expressing interest in participating in the study but choosing not to enroll in the self help course. The reason for not enrolling was either time conflicts with the four available classes or a last minute decision to put off participating in the study skills seminar. Treatment was of sufficient duration to meet the minimum standards established by Bednar and Weinberg. Finally, multiple criterion measures were employed, so that the results received from any one measure would not be subject to over-interpretation.
Chapter III

Methodology

Population and Selection of the Sample

The study took place at Thomas Nelson Community College (TNCC), a comprehensive community college offering both college parallel and career/technical curricula located in Hampton, Virginia. Thomas Nelson is an open-door institution and admits anyone over 18 years of age who shows promise of benefiting from its coursework. Students are not required to take an academic placement test prior to entering the institution, nor are they required to be a graduate of an accredited high school. TNCC offers an extensive developmental studies program to prepare students for college level coursework in reading, writing and mathematics.

The population consisted of 141 students at TNCC who had been placed on academic probation for the Winter Quarter, 1981. Each of these 141 students had accrued at least 12 credits in nondevelopmental studies courses and had a grade point average below 1.5 on a 4.0 scale. The entire population was enrolled for the Winter Quarter, 1981, at TNCC on either a part time or a full time basis. The computer search for the subject population of probation students took place in February, 1981, midway through the Winter Quarter. The grades the students received during the Winter Quarter were not reflected in the selection of the subject population.

Each of the 141 students on probation received a letter offering
participation in a study skills program, designed to increase the possibility of succeeding in college. A copy of the letter appears in the Appendix. The program was offered as a one credit hour, graded course under the title General 199 - Seminar in Study Skills. The seminar was voluntary for all probation students, and enrollment in the seminar was available only to students experiencing academic difficulty.

A stamped, addressed postcard accompanied the letter. Students were asked to return the postcard to the researcher, indicating either an interest in the program or no interest in participating. Thirty of the 141 students returned the postcard. Of these, twenty-six indicated an interest in the seminar. The 111 students who did not return the postcard were contacted by phone and offered the opportunity to participate. Thus, the subject pool of 42 students was recruited by personal invitation and a follow-up phone call to participate. Participation was not mandatory, but students were strongly encouraged to become involved in the seminars.

The control group consisted of twenty-one students who initially expressed an interest in participating in the study skills seminar but later decided not to become involved. When contacted by letter or by phone, these students indicated they wanted to be part of the seminar. They changed their minds when the researcher was signing them up for a particular section. The main reason expressed for not participating was time conflicts with the four sections offered during the Spring Quarter. Each student in the control group agreed to take the same pre-post assessment as the treatment groups, at approximately the same time as the treated groups. It was assumed that the subjects in the control
groups had comparable academic motivation to the treated subjects, since they expressed an initial interest in the study groups. The control group was included to assess the extent of improvement from nonspecific environmental factors and assessment procedures.

**Procedures**

**Treatments**

Two treatment procedures designed to help students improve their study performance were compared with each other and with the control group. Each treatment group was offered as a study skills class in the morning and in the evening during the Spring Quarter, 1981. The maximum enrollment per class was 17 students. The classes met for 1-1/2 hours/week for 8 weeks. In addition, each class had an orientation session and a concluding session, during which the students completed the study habit inventory. Both treatment groups followed the same course syllabus. The topics covered are outlined below.

**General 199 - Seminar in Study Skills - Topical Outline**

- **Orientation Session:** Course Description, Student-Teacher introductions, Survey of Study Habits and Attitudes.
- **I.** Factors Influencing Academic Success
- **II.** Understanding Academic Motivation
- **III.** Setting Attainable Goals
- **IV.** Effectively Managing Time
- **V.** Taking Lecture Notes
- **VI.** The SQ3R System of Study Reading
- **VII.** Preparing for and Taking Exams
VIII. Course Wrap-Up and Review, Final Exam

Concluding Session: Course evaluation, Survey of Study Habits and Attitudes.

In-class discussions were supplemented by assigned readings in The Students's Guide to Effective Study (1970) by W. F. Brown.

Treatment 1. Study Skills combined with Rational Emotive Therapy.

The format for the sessions in Treatment 1 consisted of a 45 minute lecture/discussion on the topic of the week, followed by a 45 minute discussion applying the principles of rational emotive therapy (RET) to the topical area. When appropriate, the informational material was interwoven with RET to unify the presentation. The counseling techniques used in this treatment were derived from Ellis's (1963, 1973) rational emotive therapy techniques. Students practiced and applied the A-B-C-D-E approach to problem resolution (discussed in Chapter 1) to become aware of negative self-verbalizations, to consider ways to inhibit these thoughts, and to employ rational thinking to develop appropriate study behaviors. The objectives of Treatment 1 were for the student to do the following:

(a) develop appropriate study techniques in the topical areas outlined on the course syllabus;
(b) identify the irrational thoughts and negative self-statements that contribute to poor academic performance;
(c) emit positive self-statements that facilitate the use of appropriate study behaviors.

Treatment 2. Study Skills Seminar without Rational Emotive Therapy.

The focus of Treatment 2 was on the instruction and employment of
appropriate study techniques. The format of each session consisted of a didactic presentation on the topic of the week, a discussion concerning the use of this study technique, followed by exercises designed to allow the student to practice whatever had been discussed. Although discussion was encouraged, the flow of the discussion was controlled by the instructor and restricted to the weekly topic. The objectives of Treatment 2 were for the student to do the following:

(a) develop appropriate study techniques in the topical areas outlined on the course syllabus;
(b) employ the recently learned study techniques to develop successful study habits.

Data Gathering

Prior to participating in the study, all subjects signed a release for access to academic records and testing. All participants were informed that they were involved in a project evaluating the effectiveness of academic support programs at TNCC. The use of academic records, assessment testing, and interviews were for the sole purpose of evaluating program impact. All information obtained during data gathering procedures was confidential.

The criterion measures of this study were grade point average, student retention and a self-evaluative survey of study habits and attitudes. Access to academic records was employed to obtain student grade point average immediately prior to and following the Spring Quarter, 1981. Cumulative GPA was used as the pre-treatment standard, while Quarterly GPA following treatment was obtained as an indicator of
treatment effectiveness.

Student retention was defined as the likelihood that a student would return to college during either the Summer or the Fall quarter following participation in the study skills program. Allowing the student two quarters to return to college accounts for those students who do not attend during the summer session because of the need to work. However, many factors could influence a student's decision to return or to leave school after a summer break, and it would be inappropriate to infer that the student not returning to college was not affected by the study skills seminar. For this reason, an attempt was made to contact participants in the study who did not return to TNCC during either the Summer or the Fall quarter, and to determine the reason for deciding to leave the college.

The Survey of Study Habits and Attitudes (SSHA) (Brown and Holtzman, 1966) was employed as a self-report measure of study strengths and weaknesses. The survey was administered to all subjects during the orientation session and again during the concluding session. All subjects in the control group took the SSHA at approximately the same time as the treated subjects. A description of the SSHA, including information on reliability and validity, is available in the Instrumentation section of this paper.

Finally, following completion of the seminar, students were given a detailed and anonymous evaluation. On this evaluation students rated the effectiveness of content sessions, the text, and the counselor facilitating the class. In addition, students noted if their grades had improved as a result of the seminar, or if their perception of them-
selves and of their study habits had changed as a result of the seminar. From this evaluation the researchers determined if participant perception of the value of the seminar was positive, and if the participants believed their grades had improved as a result of the seminar, prior to the student completing any courses.

Ethical Safeguards and Considerations

Five considerations were employed prior to, during, and following the study in order to accomplish the following:

- protect the rights of all participants,
- insure the opportunity for all participants to receive assistance as a result of volunteering for the study,
- maintain confidentiality and participant anonymity to the greatest extent possible.

These considerations were as follows:

(a) Research was approved by the Ethics Committee of William and Mary and by the Office of Institutional Research at Thomas Nelson Community College.

(b) Participation was voluntary. Students signed forms allowing the experimenter access to records.

(c) Students placed in the control group were afforded the opportunity to participate in treatment.

(d) Confidentiality of data was maintained throughout and after the study.

(e) Students could withdraw from the study at any time with no repercussions from the institution.
Instrumentation

As noted previously, the dependent variables of the study were grade point average, student retention and a self-evaluative survey of study habits and attitudes. Only the last of the three criteria measures is subject to a discussion related to instrumentation.

The Survey of Study Habits and Attitudes (SSHA) (Brown and Holtzman, 1966) was used to note self-perceived changes in study habits and attitudes as a result of treatment. The SSHA is a 100 item written, self-report inventory designed to indicate a student's behaviors and attitudes as they are related to study habits. Students responded to each item using a 5-point scale to indicate whether they rarely, sometimes, frequently, generally, or almost always do or feel as the item suggests. Each of these five descriptors is supported by a percentile estimate. Rarely is defined as 0 - 15% of the time, sometimes (16 - 35%), frequently (36 - 65%), generally (66 - 85%) and almost always (86 - 100%) in order to increase interpretability of the adverbial descriptor.

Four 25 item subscales are delineated on the SSHA:

1. Delay avoidance (DA): a measure of promptness in completing academic assignments, lack of procrastination and freedom from delay.

2. Work methods (WM): a measure of the use of effective study procedures, efficiency in doing academic assignments, and how-to-study skills.

3. Educational acceptance (EA): a measure of the student's approval of educational objectives, practices and requirements.
4. Teacher acceptance (TA); a measure of the student's opinion of teachers and of the teacher's classroom behavior.

Scores on the first two subscales combine to yield a score for study habits (SH). Scores on the last two subscales combine to form a study attitude (SA) scale. Finally, all subscales are combined to provide a scale labeled study orientation (SO).

Evidence for reliability of the SSHA can be noted. Shay (in Buros, 1972) mentions 4 week test-retest coefficients of .88 and 14 week test-retest coefficients in excess of .83. Shay presents evidence for validity in terms of low correlation coefficients (.21 - .27) between the SSHA and aptitude tests and higher correlations (.36 - .49) between the SSHA and grades, suggesting the test is related to grades but is not a measure of ability. Higgins (1972) reviewed the SSHA and judged it to have adequate reliability and validity. Although the reliability estimates of the survey are typically high, the most troublesome aspect of the SSHA is its predictive validity. The assumption that the SSHA measures a student's study habits, and the further assumption of a strong relationship between study habits employed and grades obtained, lead to questionable ability of the instrument to predict academic success. Another problem with the SSHA is that scores can be manipulated by the students at will. The transparency of the items restricts the use of the SSHA to situations in which the student has little or no motivation to fake responses.

The SSHA is appropriate to assess change in study habits and attitudes as a result of treatment. The survey was assigned to all treatment groups during the orientation and concluding session. An eight
week interval between pre- and post-testing took place for all control group subjects. The high test-retest reliability of the instrument provides a strong basis for attributing changes in the instrument to factors other than chance. The criteria of grade point average can be related to change as reported on the SSHA to provide a behavioral, as well as perceptual, indicator of academic progress. Finally, the student had no knowledge of pre-test scores, nor any obvious reasons to misrepresent himself on the SSHA post-test. Since there were no personal advantages to faking, the SSHA can be assumed to be an acceptable indicator of student-perceived change in study habits and attitudes.

**Design**

The design of this study was an untreated control group design with pre-test and post-test. There were two treatment conditions (study skills with RET, study skills without RET) and a control group. Assignment of subjects to treatment condition was executed as follows.

Students who indicated an interest in participating in the study skills seminar were contacted to determine the times that they could enroll in the class. General 199 - Seminar in Study Skills was offered twice in the morning and twice in the evening during the Spring, 1981 Quarter. Each treatment was offered once in the morning and once in the evening, at the same time either Tuesday or Thursday. The day on which each treatment was offered was randomly determined after the experimenter had placed all students in classes. Students requested either a morning or an evening class section. The experimenter used a random number table to offer the student either the Tuesday or Thursday class
date. Students who could only attend on one of the two days were allowed to enter that particular class, but this type of selection was minimal since treatments were offered at the same hour on either Tuesday or Thursday, to coincide with the Spring schedule of all TNCC classes. Students unable to participate because of conflicts with all four available classes were placed in the no treatment control group.

The group facilitators were professional counselors with at least two years of experience in teaching study skills. Each facilitator received four hours of training from the researcher in the application of the principles of rational emotive therapy to the teaching of study skills. In addition, both of the facilitators were well versed in the writings of Albert Ellis. The facilitators were provided with written procedural instructions in order to promote standardization of the instructional process across counselors. The researcher met with the facilitators three times during the eight-week course to check on the process and to review procedures. Each facilitator tape recorded the fifth class session to provide the researcher with a check to determine if each treatment was being correctly administered.

Each facilitator taught each of the two treatments. One facilitator taught the two morning sessions and one facilitator was responsible for the two evening sessions. The fact that each facilitator instructed a class with and without RET controlled for a potential bias due to differential effectiveness of one facilitator over another.

Each student was made aware that he/she participated in a project designed to assess the effectiveness of academic support programs for students on academic probation. The seminar in study skills was a one
credit, graded class. Grades were determined on the basis of attendance (20%), student participation (student-facilitator combined evaluation) (10%), midterm and end-of-course exam (30% and 40% respectively). In addition to the class sessions, students were assigned readings and out-of-class projects. Each treatment condition had the same reading assignment, while projects varied depending on the objectives of each treatment. The grade the student received for the course was not computed into the post-treatment criterion of quarterly GPA.

Statistical Analysis

Three general questions pertaining to this study can be approached via statistical analysis. Of primary importance is the question, "Was either treatment group effective when compared to the control group?" Another major question is, "Was one treatment group more effective than the other?" A final question, perhaps not as important as the first two, is, "Were the day treatment conditions more or less effective than the evening classes?" The following discussion will consider what statistical procedures can be employed within the methodology to answer each of these three questions.

The initial equivalence prior to treatment of the two treatment groups and the control group on the criterion variables of GPA and SSHA scales was determined by analysis of variance. Analysis of covariance, with either the SSHA subscale or pre-treatment GPA as the covariate, was employed to determine if differences existed between the two treatment groups and the control group following treatment. The same procedure, pre-treatment analysis of variance and analysis of covariance with
pre-treatment data as covariate following completion of the seminars, was applied to determine if differences existed between groups run during the day and during the evening across treatment conditions. When comparison of treatment means was warranted as a result of the statistical procedures previously noted, a post hoc analysis (Scheffe') was employed to indicate the nature of the differences obtained.

If the randomized placement procedures discussed in the previous section were successful, one would not expect to find any significant differences on the SSHA or GPA as a result of the analysis of variance on pre-treatment data. If the treatment procedures were effective in improving academic performance, the results of the analysis of covariance should point to significant differences. Although no differences between day or evening classes were predicted, any observed differences between these groups would be noted in the analysis of covariance. Provided a significant F is obtained when considering the post-treatment data, a post hoc analysis would provide insight into the relative superiority of either treatment condition or of the control group when compared to each other.

The criterion of student retention was reported as the percentage of students in either treatment or control condition who decided to return to TNCC during the Summer or Fall Quarter, 1981. A chi square test of single classification (Dixon & Massey, 1969) was employed to determine if the number of students returning after participating in treatment or control groups differed from the number of nonprobation students returning to TNCC between the Spring and Fall quarters. The same statistical procedure was employed to assess differences between
treatment and control groups. The assumption was that a successful treatment program would return as many, if not more, students during the Fall Quarter as those students not on probation.

Each subscale of the SSHA (WM, DA, TA, EA) was considered as a separate scale in the statistical analysis of the data. Differences obtained on major SSHA scales (SO, SH or SA) might be due to specific differences that could appear in analysis of the subscales. Finally, the two study habit scales (work methods and delay avoidance) were more critical to the assessment of improved academic performance than were the two measures of study attitudes (educational acceptance and teacher approval). Differences obtained on post-treatment assessment on either of the study habit scales were stronger indications of treatment effectiveness than differences obtained on the two subscales assessing study attitude.

Specific Hypotheses

The following hypotheses can be noted as a result of the statistical procedures discussed in the preceding section.

- Hypothesis based on the expected results of the analysis of variance on the pre-treatment criterion variables of GPA and SSHA.
  1. No difference among Treatment 1, Treatment 2 or the control group on either GPA or on any of the scales of the SSHA.

- Hypotheses based on the expected results of the analysis of covariance on the post-treatment criterion variables of GPA and SSHA.
  2. Significant differences will exist among Treatment 1, Treatment 2 and the control group on end-of-quarter GPA.
  3. Significant differences will exist among Treatment 1, Treatment 2 and the control group on post-treatment SSHA scales.
4. No differences will exist between students participating in the program during the day or during the evening on either GPA or SSHA scales.

Hypotheses based on the expected results of the post hoc analysis of post-treatment data.

5. Treatment 1 GPA will be significantly higher than that of the control group.

6. Treatment 2 GPA will be significantly higher than that of the control group.

7. Treatment 1 GPA will be significantly higher than that of Treatment 2.

8. Treatment 1 scores on each SSHA scale will be significantly higher than that of the control group.

9. Treatment 2 scores on each SSHA scale will be significantly higher than that of the control group.

10. Treatment 1 scores on each SSHA scale will be significantly higher than that of Treatment 2.

Hypothesis based on the expected results of the chi square test of single classification on student retention.

11. No differences will exist between students participating in the study skills seminar and nonprobation students at TNCC on the percentage returning to college for the Summer or Fall Quarter, 1981.

Summary of Methodology

The purpose of this design was to evaluate the comparative efficacy of two approaches to teaching study skills to community college students on academic probation. The sample consisted of students on academic probation at TNCC who, after being personally contacted, indicated a willingness to enter a one credit, graded seminar on study skills. Two treatment approaches were administered. One-half of the sample participated in a study skill seminar combined with rational emotive therapy. The other half of the sample attended a study skills seminar without
RET. A control group consisting of probation students initially requesting treatment but later changing their minds was employed as a comparison with each treatment group.

The study skills seminars consisted of eight, 1-1/2 hour sessions, in addition to a pre-treatment orientation session and a post-treatment concluding session. Three criterion measures were evaluated: grade point average, student retention, and a self-evaluative survey of study habits and attitudes. All participants and controls took the study habit survey during the weeks of the orientation and concluding session.

The design of this study was an untreated control group design with pre-test and post-test. Students and group facilitators were randomly assigned to treatment groups. Treatments were offered at the same time on either Tuesday or Thursday. Each treatment was offered once in the morning and once in the evening. The day each treatment was offered was determined by random selection.

Group facilitators had at least two years of experience in teaching study skills. Each facilitator taught each of the two treatment conditions. Facilitators were trained in the teaching of RET, were provided with written procedural instructions, and participated in biweekly sessions to address problem areas. Session five of each seminar was taped to determine if treatments were being correctly administered.

Analysis of variance, analysis of covariance, and post hoc analysis were employed to assess treatment effectiveness across the criterion variables of GPA and the self-report study habit survey. A chi square test of single classification was used to evaluate the effect of treatment on student retention. It was hypothesized that the study skills
seminar with or without RET would be superior to the control group, while the study skills group with RET should prove superior to the seminar without RET in positively affecting student academic performance.
Chapter IV

Analysis of Results

The results of the study will be reported in the same order as the hypotheses were presented in Chapter III. Tables IV-1 through IV-6 have been included to add clarity to the description of the data. In addition to the hypotheses noted in Chapter III, the results of the study were analyzed on the basis of student effort expended in the study skills seminar. This additional analysis was necessary to describe the positive effects of the seminar for students who made an attempt to change their ineffective study patterns by applying themselves in the treatment groups. A discussion section will follow offering a possible explanation of the treatment results.

1. H₀: There will be no difference among Treatment 1, Treatment 2, or the control group on either pre-treatment GPA or on the pre-test results of any SSHA scale.

The null hypothesis stating no difference between treatment groups and control groups on pre-treatment data was rejected. Analysis of variance procedures on pre-treatment data indicated significant differences existed between treatment and control subjects on grade point average and on the attitudinal scales of the SSHA. Pre-test means and standard deviations for the criterion variables of GPA and the SSHA subscales appear in Table IV-1. Review of pre-treatment GPA indicates the control group's mean grade point average was 1.45 on a 4.0 scale, compared to a 1.05 mean GPA for the RET group (Treatment 1) and a 1.13
Table IV-1

Pre- and Post-Test Means, Percentile Scores, Standard Deviations and F-Probabilities for Treatment and Control Groups on Grade Point Average (GPA) and Scales of the Survey of Study Habits and Attitudes (SSHA)

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<th>Post-Test Data</th>
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<td>X</td>
<td>%</td>
<td>SD</td>
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<td></td>
<td>II</td>
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<td>III</td>
<td>21</td>
<td>1.45</td>
<td>.38</td>
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**KEY:**
- I = RET Study Skills Group
- II = Non-RET Study Skills Group
- III = Control Group
mean GPA for the non-RET group (Treatment 2). Differences between groups were significant at the .003 level. Post hoc analysis indicated the control group to have a significantly higher grade point average than either treatment condition prior to the onset of the study groups. A possible explanation for the initial unequivalence of groups will be noted in the discussion section of this chapter. Analysis of covariance procedures, using pre-treatment data as covariates, was employed with all post-treatment data to control for the initial differences between treatment and control groups.

Significant pre-test differences among treatment and control groups were also evident on attitudinal scales of the SSHA. The SSHA subscales of teacher approval and educational acceptance both reflected significant differences among groups at the .01 level. The mean pre-test control group score for each SSHA subscale was higher than the mean pre-test scale scores for either treatment group, but the differences were not significant for either study habit subscale. The control group pre-test mean was more than four points higher than either treatment condition on both the delay avoidance and work method subscale of the SSHA. The two treatment groups displayed basically identical pre-test means on both study habit subscales. The difference of pre-test scores among groups was most pronounced on the teacher approval subscale. The RET treatment condition average was 27.39 on the TA pre-test, compared to 30.38 for the non-RET group, and 34.33 for the control group. Post hoc comparison of treatment means using the Scheffé procedure led to the conclusion that the control group was significantly higher than the RET group on the TA scale pre-test data, but not significantly different
when compared to the non-RET group.

Conclusions to be made from the pre-test analysis of the educational acceptance of the SSHA are essentially the same as those of the TA scale. Analysis of variance of the EA data indicated differences significant at the .01 level. Post hoc analysis using the Scheffé procedure noted that only the control group and the RET treatment group had a difference large enough to be significant at the .05 level. Even though Treatment 1 and Treatment 2 displayed similar pre-test means, the difference between the non-RET group and the control group was not large enough to be significant at the .05 level.

Converting the raw data means of SSHA pre-test subscales to percentile scores adds clarity to the results. The manual for the Survey of Study Habits and Attitudes (Brown and Holtzman, 1966) lists percentile norms for college freshman, based upon 3054 cases taken from nine different colleges. Table IV-1 lists the percentile conversion for each SSHA pre-test mean. Using the normative conversion, the RET group averaged between the fifteenth and the twenty-fifth percentile on each SSHA subscale, compared to a fifteenth to thirty-fifth percentile range on the four subscales for the non-RET group, and a thirty to fifty-fifth percentile range for the control group. The control group percentile score was higher than the percentile score of either treatment group on each SSHA subscale, leading to the conclusion that the participants of the control group perceived both their study habits and study attitudes to be stronger than did either treatment group. With the exception of the control group's mean pre-test score on the TA scale, both treatment
and control groups scored below average when compared to college freshman.

Converting the raw data means to standard scores demonstrate that treatment and control groups were inferior to college freshmen on SSHA pre-test subscales. Both the non-RET and the RET treatment group had a z score of -1.07 on the DA pre-test, and z scores of -0.82 and -0.85 respectively on the WM pre-test. Both treatment groups were also well below average on pre-test study attitude subscales. The RET treatment group had a standard score of -0.66 on the TA scale and -0.98 on the EA scale. The non-RET treatment group scored -0.29 on the TA scale and -0.93 on the EA scale. It is apparent that subjects in the treatment groups perceived their study habits and attitude toward education to be much lower than college freshmen in general. With the exception of the TA pre-test scale, the control group's standard score on SSHA pre-test scales were also below average, although to a much smaller degree than with either treatment group.

As noted previously, the study habit, study attitude, and study orientation scales are derived by combining SSHA subscales. Comparison of pre-treatment data on each of these scales will reflect differences previously noted in the discussion of the SSHA subscales. The study habit (SH) scale is a combination of the delay avoidance and work methods subscales of the SSHA. Analysis of the pre-test data of the SH scale indicates that although the control group average was almost ten points higher than either treatment group, this difference was not significant at the .05 level. The study attitude (SA) scale is a combination of the teacher approval and educational acceptance scale of the
SSHA. The difference between the control group and the treatment conditions ranges from more than thirteen points with the RET group, to nine points with the non-RET study skills group, a difference significant at .007. Post hoc analysis indicated that the control group average was significantly higher than the average of either treatment group on the pre-test SA scale. Similarly, the control group scored significantly higher than either treatment group on the pre-test study orientation scale. This is a predictable result considering the study orientation scale is obtained by combining the SH and the SA scales of the SSHA.

To summarize the results of the pre-test data, analysis of variance procedures was employed to determine that the treatment groups were not equivocal to the control group at the onset of the study. Significant differences existed between treatment groups and the control group on GPA. The study attitude subscales of the SSHA reflected a significantly higher score of the control group when compared to the RET group. The control group average was higher than either treatment group on each of the four SSHA subscales. A possible explanation for the initial unequivalence of data will be presented in the discussion section of this chapter. Analysis of covariance procedures, using the pre-test score as the covariate, will be employed on the post-treatment data to control for the differences between treatment and control groups.

2. \( H_0 \): There will be no difference among Treatment 1, Treatment 2, or the control group on post-treatment GPA.

The hypothesis of no difference between groups on post-treatment GPA was supported by the data. Post-test means and standard deviations for GPA and SSHA scales appear in Table IV-1. Analysis of covariance
procedures was employed to determine if significant differences existed among treatment groups following completion of the study skills class. Pre-Spring quarter cumulative GPA was used as a covariate to control for the initial differences between the two treatment conditions and the control group. The grade that students received for the study skills seminar was filtered out of the post-treatment quarterly GPA. The alternate hypothesis stated in Chapter III predicted the RET study skills group (Treatment 1) would attain a higher post-treatment GPA than the non-RET group study skills group (Treatment 2) which would have a higher Spring quarter GPA than the control group. The alternate hypothesis was rejected when analysis indicated no difference between treatment and controls on post-treatment GPA. Both treatment conditions and the control group reported an increase in GPA. The RET study skills group improved their GPA from 1.05 to 1.61, or 0.56 on a 4.0 scale. The non-RET study skills group increased their mean post-treatment GPA 0.33, from 1.13 to 1.46. The no treatment control group increased its GPA 0.43, from 1.45 to 1.88. The RET group had the largest change from pre-treatment cumulative GPA to post-treatment quarterly GPA, but none of the reported changes within a particular group were significantly greater than the changes that occurred with the other conditions. One can conclude that neither rational emotive therapy incorporated into a study skills class nor study skills without RET was more effective than no treatment in increasing grade point average.

3. \( H_0: \) There will be no difference among Treatment 1, Treatment 2, or the control group on the post-test results of any SSHA scale.
Post-treatment analysis of the SSHA scales indicated that both Treatment 1 and Treatment 2 had greater improvement from pre-test to post-test than the control group, but a difference between groups significant at .05 was reported only with the TA scale. The hypothesis of no difference between treatment and controls on SSHA subscales was supported with the exception of the teacher approval scale. Both the RET study skills group and the non-RET study skills group gained nearly six points on the TA scale, while the control group reported no change from pre- to post-test. The other attitudinal scale of the SSHA also demonstrated large gains from pre- to post-test by treatment groups and no change at all for the control group, although the difference between groups on post-test data was not significant. The RET study skills group gained 3.6 points on the educational acceptance scale, compared to a 4.7 point average gain for the non-RET group and no change for the control group. Combination of the TA and EA data demonstrated a significant difference between groups on the post-treatment study attitude scale. One can conclude that students participating in either treatment program improved their attitude toward their instructors and toward education in general to a significantly higher degree than the control group.

Both treatment groups and the control group increased their score from pre-test to post-test on the study habit scales of the SSHA. The rate of increase was greater for the treatment groups than the control, but no differences on post-test data of the study habit scales approached significance. The non-RET study skills group increased their study habit scores to the greatest degree. Treatment 2 increased their average score by nine points on the delay avoidance scale and by eleven
points on the work methods scale. The RET study skills group displayed increases of seven and eight points on the DA and WM scales, while the control group reported increases of 5.5 and 4.5 on the two SSHA subscales. One can conclude that all subjects in the study perceived their study habits to increase during the Spring Quarter, 1981. Although participation in a study skills seminar had a positive effect on the students' perception of their study habits, being on academic probation and participating in the control group also had a positive effect on the students' perception of their use of time and work methods. A possible explanation for the control groups' gain in GPA and SSHA scores will be presented in the discussion section of this chapter.

The alternate hypothesis predicting that the RET study skills group would have the largest rate of change on the SSHA, followed by the non-RET study skills group and the control group was not supported. The non-RET study skills group consistently reported the largest increase from pre-test to post-test on each of the four SSHA subscales. The results of this study support the view that SSHA scales are not strongly related to academic performance, since Treatment 2 reported the greatest degree of change on the SSHA scales while Treatment 1 displayed the largest increase in GPA. The reported differences between groups should not be too strongly emphasized, since a significant difference between treatment and control groups was reported on only one subscale of the SSHA (TA) on post-test data. The fact that both treatment groups and the control group demonstrated increases in GPA and on study habit scales of the SSHA decreases the likelihood that either treatment condition made a significant impact on the study behavior or the academic
performance of probation students.

4. H₀: There will be no difference between day and evening students on either GPA or on SSHA subscales.

Analysis of covariance procedures on the criterion measures of GPA and SSHA post-treatment data were employed to determine if significant differences existed between day and evening students participating in the study. Pre-test scores of each criterion measure were employed as the covariates. Control subjects were placed in either the day or evening condition after examining the hours that they were taking classes during the Spring Quarter, 1981. Students taking more than fifty percent of their classes after 5:00 p.m. were identified as evening students. Students registering for classes that began prior to 5:00 p.m. were placed in the day group. Each treatment condition was taught during the day and during the evening. The sections of the seminars offered during the day were more convenient to the subject population and had more students enrolled than the two evening sections. The resulting analysis was across treatment conditions and the control group. Thirty-five students who participated in the study took day classes and twenty-five students participating in the study could be classified as evening students.

The hypothesis of no difference between day and evening students was confirmed. Post-treatment analysis of grade point average and of SSHA subscales indicated that no criterion variable reported a significant difference due to the time classes were taken. Day students reported a slightly higher post-treatment mean GPA (1.69 to 1.60), while night students scored slightly higher than day students on each subscale.
of the SSHA, but no difference was close to being significant. It can be concluded that the time classes were taken is not a significant factor on the success of students on academic probation.

**Effect of Treatment as a Function of the Amount of Effort Applied by the Student**

The ineffectiveness of either treatment condition to positively affect the academic performance or study habits of the subject population necessitated continued examination of the data to determine if treatment was beneficial for any of the students who participated in the study. Romano and Young (1981) have indicated that students who make an effort to improve themselves benefit academically from participating in a study skills class, but students who do not apply themselves do not find enrollment in a study skills course to be useful in increasing academic performance. The question developed as to the relationship between student effort and the criterion variables of GPA and self reported study habits and attitudes. Two different, although related, operational definitions of student effort were examined. First, it was assumed that students receiving an A, B or C grade in the study skills seminar applied more effort than students receiving a D or F in the seminar. Second, it was assumed that students attending eighty percent or more of the seminar sessions applied more effort than students who missed more than twenty percent of the seminar sessions. The research question examined the effects of grade in seminar or attendance in seminar on post-treatment GPA or post-test results of the SSHA. Initially, the criterion variables were analyzed by treatment group and student effort to determine if the amount of effort expended by students
was differentially affected by participation in the RET or non-RET study skills seminars. When it became evident that type of treatment was not a significant factor, the variables of grade in seminar or attendance in seminar were analyzed across treatment conditions to determine if students who applied effort benefited more from the study skills seminar than students who did not apply effort. The hypotheses that were examined are as follows:

5. \( H_0 \): There will be no difference among students who receive an A, B or C grade in the study skills seminar, those receiving a D or F grade in the seminar, or members of the control group on GPA or on any of the SSHA subscales.

\( H_1 \): Students who receive an A, B or C grade in the study skills seminar will have a higher post-treatment GPA and higher scores on the SSHA than students receiving a D or F in the study skills seminar or students in the control group.

6. \( H_0 \): There will be no difference among students who attend eighty percent or more of the class sessions in the study skills seminar, those who attend less than eighty percent of the classes, or members of the control group on GPA or on any of the SSHA subscales.

\( H_1 \): Students with high attendance in the study skills seminar will have higher post-treatment GPA and higher scores on the SSHA subscales than students with low attendance in the study skills seminar or students in the control group.

Analysis of the data based upon the operational definitions of student effort are summarized in Tables IV-2, IV-3 and IV-4. Pre-test
and post-test data summaries are noted in these tables. The conclusions to be drawn from analysis of the pre-test data reflect the same trends that occurred when assessing differences by type of treatment. The superiority of the control group subjects over the students participating in the seminars was evident. Significant differences existed on pre-test GPA and on the attitudinal subscales of the SSHA, regardless of whether the data was being analyzed by course grade, by attendance, or by course grade and treatment group. Post hoc analysis consistently pointed to significant differences between the control group and students participating in the seminar on GPA, TA, EA, SA and SO. No significant differences existed, however, when considering pre-test data of the SSHA study habit indicators.

Pre-test differences among students taking the study skills seminar were not substantial. In general, students who applied effort during the seminar had a larger pre-test mean GPA and greater pre-test means on the SSHA subscales than students who did not apply effort in the study skills seminar. No significant differences existed on pre-test criterion variables as a function of student effort in the study skills seminar. Students who applied effort during the seminar entered treatment with a GPA of 1.16 compared to a pre-treatment GPA of 0.91 for students receiving a D or F in the study skills seminar (Table IV-3), or compared to a pre-treatment mean GPA of 0.99 for students who attended less than eighty percent of the seminar sessions (Table IV-4). Students who applied effort displayed higher pre-test scores on delay avoidance and educational acceptance, but these differences were small. It appears safe to conclude that pre-test differences among participants in the
study skills seminar based upon student effort were not substantial and more likely the result of natural variability than due to inherent differences between conditions.

Table IV-2 presents a data summary collated by grade received in the study skills seminar and by treatment group. Analysis of covariance procedures were employed to assess post-test differences between treatment groups and control subjects considering the final grade received in the study skills seminar. Pre-test criterion results were employed as the covariate. This statistical analysis was included to determine if the RET or non-RET group was differentially affected on the basis of student effort.

There were no significant differences between conditions on post-treatment GPA, although the differences between students who applied effort and those who did not are noteworthy. Students in the RET study skills group who received an A, B or C in the seminar had a post-treatment mean of 1.86, compared to a post-treatment mean of 0.98 for students in the RET group who received a D or F in the seminar. Students with high grades in the non-RET seminar had a post-treatment GPA of 1.72 compared to a mean GPA of 0.81 for counterparts who received a D or an F. The ratio of successful to unsuccessful students in the RET or non-RET treatment groups was very similar. Approximately three of every four students succeeded in the study skills seminar regardless of whether they participated in the RET or non-RET treatment group.

With respect to the SSHA scales, significant differences were obtained on the DA, SH and SO scales. On the DA scale, students who obtained passing grades in either the RET or the non-RET study skills
Table IV-2

Pre- and Post-Test Means, Percentile Scores, Standard Deviations and F-Probabilities for Grade Received in Seminar by Treatment Group and for Control Group on Grade Point Average (GPA) and Scales of the Survey of Study Habits and Attitudes (SSHA)

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KEY: I = Completed RET - Study Skills with A, B, C  
II = Completed RET - Study Skills with D, F  
III = Completed non-RET Study Skills with A, B, C  
IV = Completed non-RET Study Skills with D, F  
V = Control Group
seminar reported large increases, while students receiving a D or an F in either treatment group reported no or negative change on delay avoidance. Students in the control group reported a moderate increase on the DA scale. One can conclude that students who applied themselves in the study skills seminar perceived themselves to be better time managers than students receiving below average grades in the seminar.

Significant differences on post-test data were obtained on the study habit and study orientation scales of the SSHA. Since both of these scales are formed by combining the DA scale of the SSHA with other subscales, it can be assumed that the significant differences obtained on the SH and SO scales are mainly the result of the large differences between conditions on the delay avoidance scale, combined with smaller, nonsignificant differences of the other SSHA scales.

The use of an RET treatment modality did not appear to be different from the non-RET treatment group on affecting student performance in the study skills seminars. Students receiving an A, B or C grade in the study skills seminar appeared to exhibit similar changes on criterion variables regardless of treatment group. Likewise, students who received below average grades in the study skills seminar followed similar patterns on criterion variables regardless of treatment group. Since neither the RET group nor the non-RET group was more effective in facilitating academic performance, the two treatment groups were combined to study the effects of grade received in the study skills seminar and attendance in the seminar irregardless of the treatment group in which the student participated.

Table IV-3 displays the criterion variable data on the basis of
Table IV-3

Pre- and Post-Test Means, Percentile Scores, Standard Deviations and F-Probabilities for Students by Grade Received in Study Skills Seminar on Grade Point Average (GPA) and Scales of the Survey of Study Habits and Attitudes (SSHA)

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KEY: I = Completed Study Skills Seminar with Grade of A, B, C
II = Completed Study Skills Seminar with Grade of D, F
III = Control Group
grade received in the study skills seminar. Group 1 completed the seminar with a grade of A, B or C. Group 2 completed the seminar with a grade of D or F. Group 3 consisted of no treatment controls. The hypothesis of no difference among groups based upon student effort was rejected for post-treatment GPA and each post-test subscale of the SSHA. With respect to GPA, students in Group 1 increased their mean GPA 0.63, from 1.16 to 1.79 on a 4.0 scale. Students in Group 2 reported a small decrease in GPA, from a pre-treatment mean of 0.91 to a post-treatment mean of 0.89. Students in the control group reported on average increase of 0.44, from 1.45 to 1.88. Analysis of covariance procedures, controlling for pre-test differences, indicated a significant difference between groups at the .05 level. Post hoc analysis indicated that both Group 1 and the control group were significantly higher than Group 2 on post-treatment GPA. It can be concluded that successful completion of a study skills seminar can have a positive effect on grade point average, but that participation in a seminar must be accompanied by effort to increase academic performance in other courses.

A significant difference existed among groups on post-test data of the four subscales of the SSHA. The delay avoidance scale had the largest difference on post-test data. Group 1 increased its mean DA score by 10 raw data points, the control group recorded a 5.5 point increase, and Group 2 lost one point from pre-test to post-test. Analysis of covariance procedures indicated the differences between groups were significant at .002. Post hoc analysis indicated that Group 1 and the control group scored significantly higher than Group 2. It appears that students who scored below average in the seminar per-
ceived themselves to be poor time managers, while students who passed the seminar perceived themselves to be more effective in their use of time than when pre-test data was gathered.

The post-test differences among groups differentiated by effort were significant on each of the other subscales of the SSHA. Students passing the study skills seminar recorded large gains from pre- to post-test in work methods, teacher approval and educational acceptance. Although analysis of covariance procedures indicated significant differences on WM, TA and EA, post hoc analysis did not point to any differences between groups on post-test data. This was due to the fact that the Scheffé procedure is based upon analysis of variance, and pre-test differences could not be controlled for in post hoc analysis. Examination of the data in Table IV-3 clearly demonstrates a larger rate of change on SSHA scales for students who received an A, B or C grade in the study skills seminar than for students receiving a below average grade, or for students in the control group. It can be concluded that successful completion of the study skills seminar had a positive effect on students' study habits and attitudes. Nonsuccessful completion of the seminar was accompanied by no perceived change on educational acceptance, an increase in both perception of work methods and teacher approval, and a small decrease in delay avoidance.

Table IV-4 highlights pre-test and post-test data on the basis of course attendance. Group 1 attended at least eighty percent of the study skills sessions. Group 2 missed at least twenty percent of the sessions. Group 3 constituted the control group. The assumption was made that attendance in the seminar was a behavioral indicator of effort
Table IV-4

Pre- and Post-Test Means, Percentile Scores, Standard Deviations and
F-Probabilities for Students by Attendance in
Study Skills Seminar on Grade Point Average (GPA) and
Scales of the Survey of Study Habits and Attitudes (SSHA)

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**KEY:**
I = Completed Study Skills Seminar with 80% Attendance
II = Completed Study Skills Seminar with less than 80% Attendance
III = Control Group
expended in the study skills classes. One of the weaknesses of previous research on study skills, and one of the drawbacks of behavioral modification attempts to increase study skills, has been high subject attrition during the research project (Hoopes, 1969, Beneke and Harris, 1972). The alternate hypothesis was that students with high attendance would have a higher GPA and higher post-test SSHA score than students missing twenty percent of the classes.

Analysis of post-test data based on class attendance closely paralleled the results of data analysis based on grade received in the study skills seminar. Significant differences were obtained between groups on the SSHA subscales of work methods and teacher approval. Post-test analysis of GPA, delay avoidance and educational acceptance were close to being significant at .05. As with grade in seminar, students with high attendance demonstrated large increases from pre-test to post-test on each SSHA subscale and on GPA. Students missing at least twenty percent of the seminar sessions increased their GPA an average of 0.13, compared to a mean increase of 0.68 for students with high attendance. It should be noted that the grade the student obtained in the seminar was not considered in compiling post-treatment GPA. Students with high attendance increased their mean scores from pre-test to post-test thirty percentile points on delay avoidance and forty-five percentile points on work methods. Students in the low attendance group reported increases of 10 and 25 percentile points on the two study habit subscales. Both the high and low attendance group noted moderate increases on the study attitude subscales of the SSHA. There were no differences between groups based on attendance on the SSHA attitudinal scales.
In summary, differences did exist between students who made an effort to improve themselves and those who did not. Participating in an academic treatment program is not by itself an effective way to increase academic performance. The student who participates must also make an effort to learn and to use the material presented in the seminars. Measuring effort by either grade received in seminar or number of sessions attended resulted in major differences in post-treatment GPA and SSHA subscales between students who applied themselves and those who did not. The type of treatment that the student participated in did not affect the data on student effort. The results of this study support the conclusions of Romano and Young (1981), indicating a need for participants to seriously try to change their academic behaviors in order for a treatment program to be effective in altering poor academic performance.

7. $H_0$: There will be no difference between students participating in the study skills seminar and the general student population at TNCC on the percentage returning to college for the 1981-1982 academic year.

Few issues in education are receiving as much attention as the ability of higher educational institutions to retain their student body. A recent survey of 518 two-year college administrators, completed by the President's Academy of the American Association of Community and Junior Colleges, indicated that the highest level of concern among college administrators was displayed in the ability of colleges to retain their students (Lake, 1980). For this reason, the number of students participating in the study skills seminars who returned to TNCC for the up-
coming academic year was assessed as an indication of treatment effectiveness. Individual records were surveyed during the Summer and Fall Quarters, 1981, to determine whether or not the student had returned to TNCC following participation in the study. All students signed permission forms during the study allowing the researcher access to their academic records. Students who did not return to TNCC during either quarter were contacted by phone to determine why they dropped out of the institution.

A chi square test of single classification (Dixon and Massey, 1969) was employed to determine if the number of students in the treatment groups who returned to TNCC differed from the number of people in the TNCC general student body who returned to college. The participants in the study skills seminar were compared to both the percentage of curricular students who return to TNCC and to an estimate of the yearly turnover experienced at the institution. All estimates of student retention at TNCC were provided by the college's Office of Institutional Research. This office had assessed that seventy-one percent of all students who declare a major at TNCC returned to the college for the 1981-1982 academic year. The Office of Institutional Research had also estimated that sixty percent of all students who enter the institution during one year return to the college for the following year. The research question examined differences between participants in the treatment program and each of the estimates of retention taken from the TNCC general student population.

Retention data for participants in the study as a function of treatment group is reported in Table IV-5. The control group had the
Table IV-5

Students Returning to Thomas Nelson Community College During Either the Summer or Fall Quarter, 1981 as a Function of Treatment Group

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Total in Seminar</th>
<th>Returned to TNCC</th>
<th>Did not return to TNCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment 1 - RET - Study Skills Group</td>
<td>23</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>Treatment 2 - Non-RET - Study Skills Group</td>
<td>21</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Treatment Groups Combined</td>
<td>44</td>
<td>33</td>
<td>11</td>
</tr>
<tr>
<td>Control Group</td>
<td>21</td>
<td>17</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total in Seminar</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Returned to TNCC</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Did not return to TNCC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

During
Percent
100
78
22
100
71
29
100
75
25
100
81
19
highest percentage of returning students (81%), followed by the RET treatment group (78%), and the non-RET treatment group (71%). Both treatment groups and the control group reported a higher rate of retention than the sixty percent estimate of retention experienced by the TNCC student body. Treatment groups and controls compared favorably to the seventy-one percent retention rate for curricular students at TNCC. The control group and the RET study skills group exceeded the retention rate for curricular students, while the non-RET study skills condition had the same retention rate as that of curricular students.

Chi square analysis of the data indicated that none of the differences between participants in the study and retention rates of the TNCC student body were large enough to be significant at the .05 level. Thus, the null hypothesis comparing students participating in the seminar with the student body in general or with curricular students in particular on the criterion of student retention was confirmed. The fact that no significant differences on student retention were found when comparing high-risk students on academic probation to low-risk curricular students at the institution speaks well for the treatment program. The high rate of retention demonstrated by the control group appears to contradict the effectiveness of either treatment program, but both treatment and control groups fared well when compared to curricular students or students in general. A possible explanation for the superiority of the control group over the treatment groups is provided in the discussion section of this chapter.

Fifteen students who participated in the study did not return to TNCC during either the Summer or the Fall Quarters, 1981. Five of these
students were in the RET study skills group, six nonreturning students were in the non-RET study skills group, and four students were in the control group. An attempt was made to contact each student by phone to determine why they decided not to return to college. Table IV-6 provides a description of reasons for not returning to college as a function of treatment group. The main reason for leaving TNCC was academic suspension from the college. Three students in the RET condition, four students in the non-RET condition, and one student in the control group were not allowed to return to TNCC because they did not achieve a Spring quarter GPA of 1.5 or greater. Four of the fifteen students could not return because of financial difficulties. Two of the students in the non-RET group lost their financial aid and could not afford to return. One student in the RET group decided to drop out of school and work for a year. She planned to return to the college for the Spring Quarter, 1982. One student in the control group had left TNCC so his wife could return to college. He also had plans to return to the institution in the future.

Besides academic suspension and financial limitations, the reasons for leaving the institution were unique to the individual. One student who had participated in the RET study skills group had transferred to Norfolk State University. Another student who was in the control group declined to give a specific reason but appeared to be tired of taking college classes. Finally, one student who was in the control group had an unlisted phone number and could not be contacted.

In summary, the retention rates for treatment and control groups were compared to the retention rates for curricular students at TNCC and
<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Suspended from College</th>
<th>Financial Difficulty</th>
<th>Transfer to Other College</th>
<th>No Reason Stated</th>
<th>Unable to Locate</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET Study Skills</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Non-RET Study Skills</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Control Group</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
to an estimate of the yearly turnover experienced at the institution. Although no significant differences between students participating in the study and either comparison group were found, students in the study equalled or exceeded the retention rate for either comparison group. This finding was favorable considering the fact that probation students are labeled "high risk" with respect to returning to college, while students who declare a major typically are among the lowest risk with respect to dropping out of a collegiate institution. The majority of those not returning to TNCC were academically suspended from the college. The second major reason for leaving the college was financial difficulties, followed by one student who transferred to another institution, and one individual who appeared to have lost interest in school.

Student Perception of the Study Skills Seminar as Reported by an End-Of-Course Evaluation

In addition to the criterion variables of grade point average, pre- and post-test scores from the Survey of Study Habits and Attitudes, and an analysis of student retention rates, participants in the study skills seminar were given a detailed and anonymous course evaluation asking each to react to the perceived value of the course and to their personal progress in the seminar. A copy of the course evaluation appears in the Appendix. The purpose of this evaluation was to provide the researcher with a perception of the participants subjective impression of the treatment program. Although a great deal of data was generated by the distribution of this evaluation, only general conclusions and major findings will be reported. The majority of the information obtained was used by the researcher in planning future study skills seminars for
failing college students.

The students' perception of the study skills seminar was overwhelmingly positive. All thirty-nine respondents thought the seminar had assisted them in developing effective study habits, all but one student thought the course should be offered for probation students, and thirty-one of thirty-nine respondents thought the course should be required for students on probation. Thirty-three of thirty-nine people indicated that the seminar was the best or one of the better courses they had taken. It is apparent that the participants appreciated the fact that the course was available and perceived themselves to be more effective students as a result of taking the seminar.

The students' perception concerning their end-of-quarter GPA reflected some inaccuracy. The students were asked whether or not their grades would be higher the quarter that they took the seminar. Twenty-eight of thirty-nine students expected an increase in GPA for the Spring Quarter, 1981. Ten students indicated that they did not know if their grades would be higher. One student expected a decrease in GPA. In reality, twenty-four students increased their GPA, twelve decreased their GPA and eight did not change their GPA. Approximately seventy-two percent of the respondents thought their GPA would increase, while in fact only fifty-four percent improved their quarterly GPA during the Spring Quarter, 1981. The evaluation form was administered the week prior to final exams, a period in which students should have an accurate perception of their end-of-term grades. The fact that many students overestimated their end-of-quarter GPA may be an indication that irrational, defensive thinking and inaccurate perception of self were
occurring with some students at the end of the treatment period.

   No real differences appeared between the RET and the non-RET treatment groups on the end-of-course evaluation. Both groups had similar positive impressions of the seminar and found the content portions of the seminar to be the most helpful of all topics covered. One question on the evaluation asked if the student's perception of self changed as a result of the seminar. This question was an indirect attempt to assess the effectiveness of the RET modality. In reality, the question was too general to discriminate between treatment groups. Twenty of twenty-one members of the RET group responded affirmatively to this question. Fifteen of eighteen members of the non-RET treatment group also believed that their perception of self had changed as a result of the seminar. The results of the end-of-course evaluation lend additional support to the view that the two treatment groups were not perceived by the students as different enough to have differential effects on academic performance.

   The students were asked what in class topics, reading assignments and homework assignments they found to be of greatest value. Information and assignments on lecture note-taking was consistently perceived to be of greatest value to the student participants. Reading assignments on time management and time scheduling were perceived as being useful by the students, as was information on test-taking and preparing study sheets for exams. A lecture on the SQ3R method of study reading was noted as beneficial by nearly fifty percent of all participants.

   Course material that covered study skills areas was perceived as more helpful than course material dealing with counseling areas or
attitudinal change. The lecture on goal setting and the reading assignment on improving motivation appeared to be of only moderate value when compared to the content or skill acquisition topics. The lowest value rating of all in-class topics was the lecture/discussion on factors influencing success. This was the lecture that laid the groundwork for rational thinking in the RET study skills seminar. The same topic focused on motivational assessment in the non-RET seminar. Only four of the thirty-nine respondents perceived this lecture to be the most helpful in the course. All four of these individuals were in the RET treatment group. Nonetheless, the low rating for the lecture on rational thinking provides another indication that the rational emotive therapy component was not effective in changing academic performance.

In summary, an end-of-course evaluation was administered to all students in treatment groups on the final class session. A near unanimous feeling was reported that the study skill seminar was useful and should be offered to students on probation on a regular basis. The percentage of respondents who expected an improved GPA during the Spring Quarter, 1981, was much higher than the percentage of students who actually increased their GPA. There were no major differences between treatment groups. Students in either condition perceived topics associated with skill acquisition to have been of greater value than topics associated with personal assessment or attitude change. The results of the evaluation lend support to the view that the RET component was not a significant factor in altering the academic performance of the subject population.
Discussion

A major problem in the research project was that the control group was not equivalent to the treatment group at the onset of the study. The initial differences between treatment and control groups may be explained by examining how the control group was formed. As noted in Chapter III, the control group consisted of twenty-one students who initially expressed an interest in participating in the study but later decided not to enroll in the seminars. Each student in the control group was on academic probation during the Winter Quarter, 1981, the quarter from which the subject population was drawn. The control group was comprised of students expressing an interest in taking the study skills seminar in order to control for potential motivational differences between subjects who participated in treatment and those who did not. Most students in the control group indicated that the reason for not taking the seminar was lack of available time or that the seminar was not offered at a time convenient to their schedules. In addition to problems associated with time, it is possible that several of the students in the control group improved their grades during the Winter Quarter, 1981, and that this increase in GPA was accompanied by an increase in the students' perception of their study habits and attitudes. These students may have believed that the study skills seminar was not as necessary as they had originally thought it to be, leading to a change of mind with respect to participating. The initial differences between treatment and control groups on GPA and SSHA attitudinal scales could be attributed to some students in the control group improving their study efforts the quarter prior to the onset of the study. This
potentially confounding maturational effect arose because students were recruited for participation in the study skill seminar approximately six weeks prior to the onset of treatment.

The absence of significant differences on post-treatment data between treatment and control groups could also be explained by considering the recruitment of the control group. Although the control group did not receive treatment during the Spring Quarter, 1981, they did receive attention and some counseling during the recruitment phase of the project. Each of the subject population of 141 students received a letter noting the student's academic situation and offering the opportunity to participate in a study skills program. A copy of this letter appears in the Appendix. In addition, following the letter, the student received a phone contact explaining the treatment program. The phone contact averaged fifteen minutes each, and contained an element of academic counseling as well as a description of the treatment program. The personal contact and individualized attention received by the students during the recruitment phase of the project may have affected some members of the control group's attitude toward studying. Control group subjects entered the Spring quarter knowing their academic predicament and realizing that they were responsible for themselves, especially since they had refused assistance from the college by deciding not to enroll in the study skills seminars. This pre-treatment attention may have affected some members of the control group and contributed to the improved study habit score and the increase in GPA of the control group. The effect of pre-treatment attention on the control group may be substantiated by the lack of change on SSHA attitudinal
scales from pre- to post-testing. Subjects in treatment groups reported large increases in TA and EA during the study, while the control group reported no change on either variable. If the attention provided to the control group prior to the study had an effect on study habits and GPA, there would be no reason to expect a subsequent change on SSHA attitudinal scales during the treatment period. Instead of the intended "no treatment" control group, what may have resulted was that members of the control group were positively affected by the attention provided during the recruitment phase of the study.

In addition to the initial superiority of the control group and the absence of significant differences on post-treatment data between treatment and control groups, a third area of discussion was the lack of significant differences between the treatment groups. The combination of techniques of rational emotive therapy and study skills was an attempt to introduce a cognitive component into the counseling treatment plan. Cognitive modification had been identified as a successful method in alleviating test anxiety (Meichenbaum, 1972; Sharma, 1975), but had not previously been employed as part of a multi-component counseling intervention designed to increase academic performance. The RET treatment strategy incorporated Ellis's (1963, 1973) technique of becoming aware of negative or irrational thoughts, considering ways to inhibit these thoughts, and employing rational thinking to develop appropriate study behaviors. Facilitators were instructed to spend forty-five minutes of each session applying the principles of RET to the topic of the week. The fifth session of each treatment group was taped and did verify that facilitators were teaching the different treatment strate-
gies appropriately and were discussing the RET techniques in the seminars. The incorporation of RET may have been too brief a part of treatment to be distinctively different from the non-RET treatment group. Both treatment groups attended the same number of sessions and the same amount of time per session. The forty-five minutes that Treatment 1 spent on RET was devoted to application of study techniques by Treatment 2. Thus, the application of study skills by the non-RET group may have offset the cognitive modification by Treatment 1. It is also possible that the use of Ellis's A-B-C-D-E approach to problem resolution was too general for students to internalize and use to alter negative thought patterns. The group application of the RET treatment may have restricted the students' potential to personalize and apply the cognitive component. Further research is needed to study the effects of individual counseling employing rational emotive therapy on failing college students, and to determine if this counseling intervention is effective with individual cases in increasing academic performance.

Summary of Data Analysis

Analysis of variance procedures on pre-treatment data indicated that the control group was significantly different from either treatment group at the onset of the study. The control group entered the study with a significantly higher grade point average and significantly higher scores on the SSHA study attitude subscales of teacher approval and educational acceptance. Nonsignificant, but noticably higher scores on delay avoidance and work methods were also recorded by the control group. A possible explanation for the pre-treatment differences between
groups was that students who had improved their GPA the quarter prior to the study removed themselves from the treatment program and participated in the control group. Analysis of covariance procedures on post-test data, with pre-test scores as covariates, was employed to control for initial differences between treatment and control conditions.

Neither treatment group demonstrated superiority over the control group at the end of the study. Both treatment groups and the control group increased their GPA and self-reported study habit scores during the Spring Quarter, 1981. With respect to GPA, the RET study skills condition reported the largest increase from pre- to post-treatment, followed by the control group and the non-RET study skills condition. The non-RET group lodged the largest increase in SSHA study habit scores from pre- to post-test, with the RET group having the second largest increase and the control group displaying a small improvement. Only the treatment groups increased their scores on the study attitude scales of the SSHA. The large increases on the teacher approval scale noted by both treatment groups, and the lack of change on the TA scale by the control group, was significant at .05. Although both treatment groups increased their scores on the educational acceptance scale, while the control group reported no change, the differences between groups were not large enough to be significant. Neither treatment group was more effective than the other in affecting academic performance. It can be concluded that the inclusion of rational emotive therapy techniques had little effect on the students participating in the seminars. The time that students took classes was also of no consequence. No differences were obtained between day and evening students in the study.
In addition to the analysis of results based on treatment effects, the data was also examined by distinguishing the amount of effort that the students expended in the seminar. The final grade received and the number of sessions attended were employed as operational definitions of effort. Significant differences on post-treatment data were obtained for all criterion variables, distinguishing students who applied effort from those who did not. Final grade in seminar provided larger discrepancy between groups than number of sessions attended. It can be concluded that participation in a study skills program is not by itself an effective way to increase academic performance. Students must make an effort to learn and employ study techniques in order to benefit from a treatment program.

The subjects of the study were compared to the general student body at TNCC to determine if differences existed on the basis of returning to college. Retention rates for treatment and control groups compared favorably to students at TNCC who declare a curriculum and to an estimate of the yearly turnover experienced by the institution. Although no significant differences were found, students participating in the study equaled or exceeded the retention rate for either comparison group. The control group had an 81% retention rate, the RET study skills group had a 78% retention rate, and the non-RET group had a 71% return rate. The majority of nonreturning students were academically suspended from the college. Financial difficulty was also a major reason for individuals not returning to the institution.

An end-of-course evaluation was administered to all members of treatment groups during the last class session. The evaluation indi-
icated that students appreciated the assistance provided to them in the seminar and perceived themselves to have better study habits as a result of the seminar. A larger percentage of respondents estimated that their Spring Quarter, 1981, GPA would be improved than was actually the case. Participants in the RET study skills group responded to the evaluation in a similar manner to the non-RET group. The skill-oriented topics in the seminar, such as lecture note-taking, time management, test-taking and study reading, were perceived as more valuable by the students than topics dealing with motivational assessment or attitude change. The results of the evaluation lend support to the view that the rational emotive therapy techniques were not a particularly valuable element in the study skills seminar.
Chapter V
Summary, Conclusions and Implications for Further Study

Summary

Although attempts to improve academic competence among students have been going on for over fifty years and four reviews of research have been published on the topic - Entwisle (1960), Bednar and Weinberg (1970), Mitchell and Piatkowska (1974) and Kirschenbaum and Perri (1982), little is known about what approaches are the most effective for specific student populations. This study was an attempt to determine if a multicomponent intervention of study skills development and training in rational emotive therapy would be more effective in improving academic performance for community college students on academic probation than a single component intervention employing training and applications in study skills development.

The subject population consisted of 141 students who were on academic probation at Thomas Nelson Community College during the Winter Quarter, 1981. Each of the 141 students was actively recruited to participate in a one credit, graded seminar designed to increase the possibility of succeeding in college. Forty-two students took advantage of the opportunity. Participants were offered seats in one of four study skills seminars. Two seminars were held during the day and two during the evening. Each subject stated a preference for either a day or an evening class, then was randomly placed into either the RET or non-RET treatment group.
The control group consisted of twenty-one students who initially expressed an interest in participating in the study skills seminar but later decided not to enroll in the one credit class. Members of the control group were drawn from the 141 students on academic probation at TNCC during the Winter Quarter, 1981. The assumption was made that participants in the control group had comparable academic problems as treated subjects, since they came from the same population, and similar levels of academic motivation as the treatment groups, since they expressed an initial interest in participating in the seminars.

Both treatments consisted of one, ninety minute session per week for eight weeks during the Spring Quarter, 1981. The RET group worked on study skills development for forty-five minutes, followed by a forty-five minute discussion applying the principles of rational emotive therapy to the topical area. RET was employed to assist students in becoming aware of negative or irrational thought patterns and to use rational thinking to develop appropriate study behaviors. The non-RET group focused on study skills development and application of study techniques for the entire ninety minutes. The dependent measures of the study were grade point average, a self assessment of study habits and attitudes, and student retention. Cumulative pre-Spring 1981 GPA was compared to the Spring Quarter, 1981 GPA, the Survey of Study Habits and Attitudes (Brown and Holtzman, 1966) was administered prior to and following treatment as a self assessment of study development, and the percentage of students participating in the study who returned to TNCC during either the Summer or Fall quarters following the seminars was employed as a measure of student retention. Analysis of variance pro-
cedures was employed to assess differences between groups on pre-test data. Analysis of covariance procedures, using pre-test scores as covariates, was employed to assess post-treatment differences on GPA and SSHA subscales. A chi square test of single classification was employed to determine if retention rates of treatment or control groups differed from the general student population at TNCC.

Analysis of the data indicated that the control group entered the study with a significantly higher grade point average and significantly higher scores on the SSHA subscales of teacher approval and educational acceptance. Nonsignificant, but noticeably higher scores on the SSHA subscales of delay avoidance and work methods were also recorded by the control group. No pre-test differences were noted between either treatment condition. Pre-test differences between treatment and controls may have been due to students improving their study techniques and grade point average the quarter prior to the study skills seminars. These students withdrew from the treatment groups and volunteered for the control group. The fact that the control group as a whole continued to increase their GPA and the study habit scores on the SSHA supports the contention that at least some members of this group had resolved their study problems independently and were succeeding in college.

Few differences existed between treatment and controls following the study skills seminars. All groups increased their grade point average during the Spring Quarter, 1981. Treatment groups noted increases on study habit subscales that were substantially higher, but statistically nonsignificantly different, when compared to the control group. A significant difference between treatment and control groups
did occur on the teacher approval scale of the SSHA. Treatment groups noted large increases on both study attitude subscales of the SSHA, while the control group reported no change. Neither treatment group was more effective than the other in improving academic performance. It can be concluded that the inclusion of rational emotive therapy had little effect on the students participating in the study skills seminar.

The lack of differences between groups following the study led to an examination of the data on the basis of the amount of effort that students expended in the seminar. Final grade received in the seminar and number of seminar classes attended comprised the operational definitions of student effort. Significant differences were obtained on grade point average and on each of the four SSHA subscales, distinguishing students who applied themselves in the seminars from those who did not. One can conclude that participation in a program designed to increase academic competence must be accompanied by an attempt to change ineffective study patterns before behavioral or perceptual change will occur.

With respect to the retention data, there was no difference between subjects participating in the study and curricular students at Thomas Nelson Community College or to an estimate of the yearly turnover experienced at the institution. Students participating in the study equalled or exceeded the retention rate for the general student body at their college. It was encouraging that the high-risk students on academic probation equalled the student body in general on the frequency of individuals returning to college following the Spring Quarter, 1981.

An end-of-course evaluation, administered to all subjects in the treatment groups, indicated that the students valued the study skills
seminars and perceived themselves to be better students as a result of the seminars. Students consistently perceived study skill-oriented topics to be of greater value than topics dealing with motivational assessment or attitude change. Participants in the RET study skills group responded to the evaluation in a similar manner to the non-RET group, lending further support to the conclusion that the rational emotive therapy techniques were of no greater value than practice and discussion of study skills in improving academic competence.

Conclusions

The major findings of this study will be noted, accompanied by relevant supporting information.

1. The control group was unequivalent to either treatment group at the onset of the study.
   - The pre-treatment cumulative GPA of the control group was significantly higher than either treatment condition.
   - The pre-test SSHAn study attitude subscales of the control group were significantly higher than the study attitude subscales of the RET treatment group and nonsignificantly but noticeably higher than those of the non-RET treatment group.
   - The pre-test SSHAn study habit subscales of the control group were nonsignificantly but noticeably higher than the study habit subscales of either treatment group.

2. There were no significant differences between the RET study skills group and the non-RET study skills group at the completion of the treatment period.
Both treatment groups reported increases in GPA and on each of the SSHA subscales during the quarter in which the study skills seminar was offered.

- The RET study skills group reported the larger increase in GPA.
- The non-RET study skills group reported the larger increase on all SSHA subscales.
- The RET study skills group had a higher retention rate during the two quarters following the treatment period.

3. There was little difference between treatment and control groups following the study skills seminar.

- The only significant post-treatment difference between treatment and control groups was on the teacher approval scale of the SSHA. Both treatment groups reported large increases from pre- to post-testing while the control group did not change.
- Both treatment groups reported nonsignificant but noticeably greater improvement from pre- to post-testing on all SSHA subscales than the control group, with the exception of the TA scale.
- Both treatment and control groups reported similar increases in GPA during the study.
- Both treatment and control groups reported similar retention rates following the study. The control group retention rate was slightly higher than that of either treatment condition.

4. No differences were observed as a function of the time students participated in the study. Day students had neither an advantage
nor a disadvantage over evening students.

5. The student's willingness to try to change his/her ineffective study patterns appears to be a major indicator of improvement in academic competence.

- The grade received in the study skills seminar and the number of seminar sessions attended were employed as operational definitions of student effort.

- Either operational definition of effort clearly distinguished between students who increased their academic competence and those who did not.

- Significant differences on post-treatment GPA and post-test results of each SSHA scale were obtained, distinguishing students who passed the study skills seminar from those who did not.

6. Students participating in the treatment program had similar retention rates to students at Thomas Nelson Community College who declared a curriculum or to an estimate of the yearly retention rate experienced by the student body.

- Eighty percent of the control group and seventy-five percent of the treatment groups returned to college during either the Summer or Fall Quarters, 1981.

- No significant differences existed between treatment and control groups on the criteria of retention.

- Students in the treatment groups who did not return most often cited academic suspension and financial difficulties as their reasons for leaving the college.
7. Results of an end-of-course evaluation indicated that students perceived the acquisition of study techniques to be the most useful part of the seminar.

- Study techniques such as note-taking, time management, test-taking and textbook reading were perceived as more useful by participants than topics dealing with motivational assessment or attitude change.

- The results of the end-of-course evaluation support the idea that students need to develop study techniques prior to being able to confront the effect that belief systems or attitudes have on academic achievement.

Discussion and Implications for Future Research

A problem in the study was that the control group was not equivalent to the treatment groups at the beginning of the project. Selecting a control group from participants in the subject population who expressed an initial interest in participating in the study but who later changed their minds proved to be a major flaw in the experimental design. Although both the control group and the treatment groups were recruited from a list of probation students generated at the beginning of the Winter Quarter, 1981, the control group distinguished itself by increasing both GPA and perception of study habits and attitudes by the end of the same quarter. As a group, they were academically and motivationally superior to the treatment groups. The majority of subjects noted time constraints or financial difficulty as the reason for not participating in the treatment groups. These stated reasons must be questioned, how-
ever, since none of the control subjects participated in study skills treatment at their college during the Fall Quarter, 1981. The perceived need for study skills assistance had changed with several members of the control group. This change in perceived need contributed to the control group being inherently different from subjects participating in the study.

Any one of three alternatives could be considered as an option to the selection procedure for the control group. The original plan for this study was to employ a waiting list control group. This group would have been feasible had at least 60 of the 141 members in the subject population expressed an interest in the treatment program. Forty of the sixty volunteers would have been randomly placed into the four treatment groups and twenty students would have been placed in the waiting list control group. This type of control group should have had similar motivational and ability levels as the treatment groups. It would have been the best possible control for this type of study.

Problems developed because of the small number of students expressing an interest in participating in the study. During the selection procedure, twenty-six of the 141 students in the population returned the postcard, indicating an interest in the seminar. Follow-up phone calls to each student in the population developed a subject pool of approximately 60 students, but many of these people subsequently changed their minds. The college had agreed to the implementation of four treatment groups, and it would not have been wise to take some students out of treatment groups to place in the waiting list control. As a final recourse, students who changed their minds were employed as
control subjects. Although conflicts with work, other classes or financial problems were most often stated as reasons for not taking the seminar, these students were also academically and motivationally superior to the students remaining in treatment. In light of the results, their reasons for leaving the seminar must be questioned.

Romano (1978) employed both a letter-only no treatment control group and a no contact control group in examining the effect of a group counseling intervention program on the academic performance of low achieving college students. Either of these control groups could have been employed in this study. The letter-only no treatment control group warned students of their precarious academic standing and suggested services where they could receive help. The no contact control group identified students in academic difficulty but did not contact them. Neither of these control groups purport to control for motivational differences. Either group appears to control for academic differences by drawing subjects from the population of students on academic difficulty. A no contact group can best be employed when the subjects do not have to be directly involved in data gathering. Romano (1978) employed grade point average and retention as the criterion variables in his study. It would be advisable to provide some explanation of the study if one were to use a self report assessment of study habits and attitudes as a dependent variable.

The waiting list control group appears to be the best possible type of control group in examining the effect of treatment strategies on academic competence. Theoretically, the waiting list group controls for differences due to both ability and motivation. Maturation effects
could be a problem, and holding off the opportunity to participate in the treatment group could negatively affect some students. The benefits generally outweigh the liabilities, and if possible, one should be encouraged to employ a waiting list control group as an element in the experimental design.

A second area of discussion is the need to employ criterion variables that are sensitive enough to be affected by changes in the treatment strategy. Kirschenbaum and Perri (1982) question employing grade point average as a dependent variable, since it can be influenced by many factors extraneous to the experimental design. They prefer more sensitive measures of academic performance, such as exam scores in specific courses. All variables in this study could have been affected by factors outside of the treatment plan. The study skills seminar was only one event among many that the students in the project experienced. It would be inappropriate to infer that this intervention was solely responsible for the number of students returning to the institution, the students' perception of their study habits and attitudes, or the grade point average received following the Spring Quarter, 1981. On the other hand, students on academic probation need to show improvement in GPA if they are to survive in their college. As such, it is a relevant, long-term indicator of the ability to survive academically.

A solution to the selection of relevant criterion variables to assess treatment effects on academic competence may lie in selecting both short- and long-term indicators of treatment success. This study employed GPA, retention, and perception of study habits and attitudes as dependent variables in order to measure treatment effects from three
different perspectives. Future research in this area may also want to study the effect of treatment on specific courses. Arrangements could be made with an instructor to observe and record changes in study skills or in academic performance to provide a short-term indicator of treatment effects. Follow-up studies could be employed to assess long-term treatment effects. Either procedure would facilitate understanding of the degree of success of the treatment procedures in increasing academic competence.

Questions arise because of the lack of substantial differences between the RET and the non-RET treatment strategies. First, was the training in rational emotive therapy substantive enough to affect the students who participated in this treatment condition? There is a need for an additional criterion variable to determine if the RET training was effective in reducing irrational beliefs and in developing realistic thoughts concerning the student's academic situation. One possible option would be to have an RET therapist rate students in both treatment conditions on the degree the individual was employing rational thinking following treatment. If the therapist-rater had no previous notion of which treatment the student participated in, such an assessment could lend knowledge toward the effectiveness of the RET component in the experimental design. The current study recorded the fifth session of each treatment group to determine that the instructors were using different techniques in teaching the RET or non-RET seminars. An independent assessment by an RET therapist would provide valuable information concerning how the different instructional approaches were received by the students. As it is, the possibility exists that the lack of
differences between treatment conditions was due to the ineffectiveness of the RET training in altering irrational and self-defeating thought patterns.

The lack of differences between treatment groups could also be explained if both treatments were equally effective in increasing academic competence. Tarpey (1977) studied the effects of communications skills on the academic achievement of students participating in a study skills course. The comparison group participated in the study skills class, but received four fewer hours of treatment, since they did not participate in the special communication skills training. The problem in Tarpey's design is that unequal duration between treatment strategies could result in differential effectiveness. The present study controlled for a potentially confounding variable of differential treatment duration. Since both treatment groups reported increases in GPA and in scores of study habits and study attitudes, one can conclude that both groups were equally and nondiscriminately effective in increasing academic competence.

One variable that could be altered to lead to different results is treatment duration. Bednar and Weinberg (1970) reported treatment duration to be one of four variables that was necessary for a successful treatment program for underachievers, indicating that programs should meet for a minimum of ten hours to be effective. Mitchell and Piatkowska (1974) found that medium length programs possess some effectiveness with underachievers, while lengthy programs, defined as more than fifteen hours, were the most effective with failing underachievers. The present study met for twelve hours of treatment. It is possible that the twelve
hours of treatment may have been too brief to make a substantial impact. Future research could study the effects of treatment programs of varying length, to see if the number of hours in a seminar differentially affect students' academic competence. Another issue concerns the length of the rational emotive training. The RET-study skills group had forty-five minutes of RET training for eight weeks. It would be useful to see if lengthier training in RET would have a more substantial effect on student belief systems and lead to increased academic competence.

Thomas Nelson Community College is an open door academic institution that does not require college entrance examination scores as part of its admission procedures. As such, college examination scores were available from only a small part of the population. Access to scores from a college aptitude test would have been valuable in the study. Scores from such a test would have allowed the researcher to control for differences in academic ability, in addition to helping the researcher determine if the student's problem in school was based on inherent potential or on some other factor. Future research in academic competence would be enhanced by gaining access to an acceptable measure of academic potential.

One of the surprising results of this project was that students in this study returned to their college in equal or greater frequencies as students at the college who declare a curriculum or to all students in general. The question arises as to how probation students volunteering for treatment in study skills compare to probation students not interested in participating in the study. A control group consisting of probation students who refuse treatment could be compared to a waiting list
control group and to treatment groups to determine if willingness to become involved in an academic self-help program is an important factor in remaining in college. In addition, long-term follow-up studies should be employed to determine if the high retention rate noted in this study is accompanied by improved grades. Remaining in school will be of little help to students who continue to perform at near failing standards academically. Academic persistence is an asset only if it coincides with acceptable academic performance.

To summarize the implications for future research, this study pointed to the importance of carefully selecting a control group that is both academically and motivationally equivalent to the treatment groups at the onset of the study. A waiting list control group, drawn from students in the population who indicate an interest in participating in the study should provide subjects with comparable levels of interest and achievement to students participating in treatment groups.

Another area of discussion involved the need to use criterion variables that are sensitive enough to be affected by changes in the treatment strategy, yet of sufficient generality to provide a measure of the student's ability to survive academically in college classes. A possible solution is to select both short- and long-term indicators of treatment effectiveness and to assess effectiveness from various modalities. A combination of observing performance changes within a single college course, recording grade point average, assessing short- and long-term retention, gathering the student's self perception of study habits and attitudes, and conducting follow-up studies would provide a multi-faceted approach to assessing treatment effects.
There was a need in this study for an additional criterion variable to determine if the training in rational emotive therapy was substantive enough to affect the students who participated in that treatment condition. Such a measure would aid in determining if the lack of differences between groups was due to the ineffectiveness of rational emotive therapy training in altering academic competence, or because the training in rational emotive therapy was insufficient in altering negative and self-defeating thought patterns with students in this treatment group. An RET therapist who could rate subjects in both treatment conditions on the knowledge and use of rational thinking was suggested to determine the effectiveness of the rational emotive therapy training.

There was some question about the duration of the treatment programs and the amount of time devoted to rational emotive therapy training. Varying the length of either the treatment or the RET component could result in differentially affecting academic competence, and would be a useful subject for future research. It was also noted that access to college entrance examination scores for each student would have enhanced the research project by providing information to determine if the student's problems in school could be attributed to lack of academic potential. Finally, there is a need to compare the retention rate and grade point average of students volunteering for treatment in a study skills program with probation students who choose not to become involved in treatment. Such an analysis could lend information on the importance of a student's willingness to seek help as a key determinant of one's likelihood to persist and succeed in college. Research in this area
could confirm the results of this study indicating that student effort is of major importance if one is to benefit from a treatment program designed to increase academic competence.
LETTER REQUESTING STUDENTS TO PARTICIPATE IN THE SEMINAR

February 23, 1981

Dear

Your records indicate that you have been placed on academic probation for the Winter Quarter, 1981. As a student experiencing academic difficulty, the Counseling Center staff wants you to know about a specially designed program scheduled to begin during the Spring Quarter, 1981. This program is a one credit seminar in study skills, taught as a section of General 199. The seminar will meet once a week for 1-1/2 hours per week. Only students on academic probation will be invited to participate.

The seminar is designed to allow each student to explore areas of study strengths and weaknesses. Counselors will teach study skills which have been proven effective. Perhaps most importantly, the emphasis of the seminar will be on the student employing study techniques to develop successful study habits. The expected end result could be reflected in improved grade point average.

Enclosed you will find a stamped post card. Please complete this card, indicating whether or not you would be interested in participating in the seminar. If you are interested, you will be contacted within the next few weeks by a counselor who will discuss class times, answer questions you might have, and help you register for the course.

Please return the post card promptly. The class size of each seminar is limited. Students unable to participate because of class conflicts or previously full classes will be placed on a waiting list for future seminar offerings.

Your involvement is voluntary. The seminar is part of a research project evaluating the impact of study skills on students having academic problems. Your participation could help you become a successful student, while providing valuable information to the college on the usefulness of this type of program.

Looking forward to hearing from you.

Sincerely,

Jack Becherer
Counselor

JB/rb
Appendix B

SUBJECT CONSENT FORM - TREATMENT GROUPS

RESEARCHER: JACK BECHERER

TITLE OF PROJECT: THE EFFECTS OF RATIONAL EMOTIVE THERAPY ON ACADEMIC ACHIEVEMENT FOR COMMUNITY COLLEGE PROBATION STUDENTS PARTICIPATING IN A STUDY SKILLS CLASS

By enrolling in the seminar in study skills, you are also agreeing to participate in a research project evaluating the impact of study skills for students having academic problems. You will be expected to take a study habit inventory at the beginning and at the end of the course. You are allowing the researcher to monitor your GPA during subsequent quarters at TNCC.

All data collected during the project will be completely anonymous. The results of the project will be made available to any interested participant, by contacting the researcher after the seminar is over.

Thank you for your involvement.

I agree to participate in this research project.

Student Signature ______________________

Print Name ______________________________

Date ________________________________
Appendix C

SUBJECT CONSENT FORM - CONTROL GROUP

RESEARCHER:  JACK BECHERER

TITLE OF PROJECT:  THE EFFECTS OF RATIONAL EMOTIVE THERAPY ON ACADEMIC ACHIEVEMENT FOR COMMUNITY COLLEGE PROBATION STUDENTS PARTICIPATING IN A STUDY SKILLS CLASS

You have been placed in a control group for a research project evaluating the impact of study skills for students having academic problems.

You will be expected to take a study habit inventory at the beginning and at the end of the quarter. You are allowing the researcher to monitor your GPA during subsequent quarters at TNCC.

All data collected during the project will be completely anonymous. The results of the project will be made available to any interested participant, by contacting the researcher after the seminar is over.

Thank you for your involvement.

I agree to participate in this research project.

Student Signature __________________________

Print Name _________________________________

Date _________________________________
Appendix D

COURSE SYLLABUS

General 199 - SEMINAR IN STUDY SKILLS
1 CREDIT

Course Purpose:

The Seminar in Study Skills is designed to address issues of academic success as they relate to students who have not experienced success in their college coursework. A combined format of instructor lectures and class discussion will be employed to help the student explore areas of study needs and develop strategies to alleviate study difficulties.

Course Objectives:

Each student will be expected to do the following:

1) Identify specific areas of study needs that have contributed to the student's current academic situation.

2) Develop appropriate study techniques in each topical area outlined in the course syllabus.

3) Employ the recently learned study techniques to develop successful study habits.

4) Work cooperatively with other class members by active participation in class discussions.

Course Outline:

Week | Reading Assignment
1 | Orientation Session: Course Description Study Habit Pre-Test Guide to Improving Memory p.5-8 Tips for Commuting Students p.36
2 | Factors Influencing Academic Success Guide to Improving Motivation p.29-32
3 | Taking Lecture Notes Guide to Taking Lecture Notes p.9-12
4 | Setting Attainable Goals Guide to Improving Concentration p.37-40
Week | Reading Assignment
--- | ---
6  | Mid-Term Exam/After Test Discussion
7  | The SQ3R System of Study Reading
8  | Preparing for and Taking Exams
9  | Concluding Session Course Evaluation Study Habits Post-Test
10 | Final Exam

Textbook:

Grading:
The Seminar is a 2 credit, graded course. Grades will be determined in the following manner:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-Term Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40%</td>
</tr>
<tr>
<td>Homework/Class Projects</td>
<td>20%</td>
</tr>
<tr>
<td>Attendance</td>
<td>10%</td>
</tr>
<tr>
<td>Student Participation (Eval)</td>
<td>10%</td>
</tr>
</tbody>
</table>

Note:
The Seminar in Study Skills is part of a research project studying the impact of academic support programs on students experiencing academic difficulty. Your participation in the seminars, while being beneficial to you, is providing valuable information to the college on the value of this support program. Due to the special nature of this course, your participation is voluntary. You can be assured that any data obtained from you will be used only for research purposes. Your name will not be used, and strict standards of confidentiality will be maintained.
Appendix E
END-OF-COURSE EVALUATION

General 199 - SEMINAR IN STUDY SKILLS
Course Evaluation
Date of Evaluation: ____________

YOU CAN HELP TO IMPROVE THIS COURSE BY ANSWERING THE QUESTIONS ON THIS EVALUATION FORM AS HONESTLY AND COMPLETELY AS POSSIBLE.

DO NOT SIGN YOUR NAME TO THIS FORM

1. Content Areas
   A. Please circle the number which best represents the value of each content area in increasing your study ability.

      | Factors Influencing Academic Success | Not Helpful | Average | Very Helpful |
      | Lecture Note-Taking                  | 1 2 3 4 5 6 7 |
      | Setting Attainable Goals             | 1 2 3 4 5 6 7 |
      | Effectively Managing Time            | 1 2 3 4 5 6 7 |
      | The SQ3R System of Study Reading     | 1 2 3 4 5 6 7 |
      | Preparing for and Taking Exams       | 1 2 3 4 5 6 7 |

   B. List the two topics that you thought were most helpful.
      1. _________________________________
      2. _________________________________

   C. List the two topics that you thought were least helpful.
      1. _________________________________
      2. _________________________________

2. Class Discussion
   A. The seminar was designed to provide the opportunity for class discussion and interchange. Evaluate the value of the discussion in increasing your study ability.

      Rate the overall value of the class discussion.
      _____ Very beneficial
B. Has your perception of yourself as a student changed as a result of this seminar?

_____ Yes  _____ No

If yes, describe how your **perception** of yourself as a student has changed.

________________________________________________________________________________

C. Write a brief statement on the effectiveness of the discussion portion of the class in terms of the impact it had on your overall study skills.

________________________________________________________________________________

3. **Reading Assignments**

A. Amount of reading required for the course (check one).

_____ Too much reading for a one-hour course.

_____ An average amount of reading for a one-hour course.

_____ Too little reading for a one-hour course.

B. Usefulness of the reading assignments (check one).

_____ All of the reading assignments were helpful.
Most of the reading assignments were helpful.
The reading assignments were average.
Most of the reading assignments were not helpful.
The reading assignments were a waste of time.

C. List the reading assignment that you found to be of greatest value.

D. List any reading assignment that you believe should be omitted.

E. Should we use the same textbook for future study skills seminars?

   Yes   No

Comment on the reading assignments.

4. Homework Assignments

A. Please circle the number which best represents the value of each homework assignment in increasing your study ability.

<table>
<thead>
<tr>
<th>Homework Assignment</th>
<th>Not Helpful</th>
<th>Average</th>
<th>Very Helpful</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Taking lecture notes.</td>
<td>1  2  3  4  5  6  7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Setting personal academic goals.</td>
<td>1  2  3  4  5  6  7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Developing a time schedule.</td>
<td>1  2  3  4  5  6  7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Taking textbook notes.</td>
<td>1  2  3  4  5  6  7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Preparing a study sheet.</td>
<td>1  2  3  4  5  6  7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. List the homework assignment that you found to be of greatest value.

C. List any homework assignment that you believe should be omitted.

D. Amount of homework (check one).

   Too much homework for a one-hour course.
5. Overall Course

A. Compared to other courses I have taken, I rate the overall quality of this seminar as:
   ____ The best course I've ever had.
   ____ One of the best courses I've had.
   ____ An average course.
   ____ Not a very good course.
   ____ A poor course.

B. Compared to other courses I have taken, I rate the overall value of this seminar as:
   ____ The most useful course I've ever taken.
   ____ One of the more useful courses I've taken.
   ____ A moderately useful course.
   ____ Not a very useful course.
   ____ A waste of time.

C. The seminar in study skills has been designed as a one-hour course. Evaluate the number of credits assigned to this course.
   ____ This course should not carry academic credit.
   ____ One credit is adequate for the work required in this course.
   ____ This course should carry two academic credits, and meet more hours during the week.
   ____ This course should carry three academic credits, and meet more hours during the week.

D. This course was designed to help students develop effective study habits and increase their grade point average. The following questions will help us determine if these objectives have been met.
1. Will your grades be higher this quarter than during previous quarters?
   _____ Yes   _____ No   _____ I don't know

2. If yes to number one, has this seminar helped in increasing your grades?
   _____ Definitely   _____ Probably   _____ Maybe

3. Should this course be offered in the future for students on academic probation?
   _____ Yes   _____ No

4. Should this course be required for students on academic probation?
   _____ Yes   _____ No

5. Has this course helped you in developing effective study habits?
   _____ Yes   _____ No

Comments about any of the above questions.

_____________________________________________________________________

_____________________________________________________________________

Please write a critique of the course. Indicate your feelings about the course. Note what you liked and what you didn't like; what was effective and what was a waste of time. Be as specific as possible.

Thanks for your honest input.

_____________________________________________________________________

_____________________________________________________________________

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Counselor, Assistant Professor

1974-1975 The Front Door Counseling and Growth Center
for Youth
Columbia, Missouri
Executive Director
Abstract

THE EFFECTS OF RATIONAL EMOTIVE THERAPY ON ACADEMIC ACHIEVEMENT FOR COMMUNITY COLLEGE PROBATION STUDENTS PARTICIPATING IN A STUDY SKILLS CLASS

Jack John Becherer, Ed.D.

The College of William and Mary in Virginia, July 1982

Chairman: Professor Kevin E. Geoffroy

This study was designed to determine if a multicomponent intervention of study skills development and training in rational emotive therapy would be more effective in improving academic competence for community college students on academic probation than a single component intervention employing training and applications in study skill development.

The subject population consisted of 141 students who were on academic probation at a comprehensive, open-door community college during the Winter Quarter, 1981. Each student was actively recruited to participate in a one credit, graded seminar designed to increase the possibility of succeeding in college. Forty-two students were placed in one of four study skills seminars. In addition, twenty-one students who initially expressed an interest in the seminar but later decided not to participate comprised the control group.

Both the RET study skills treatment and the non-RET study skills group were offered during the day and during the evening. All treatments consisted of one, ninety minute session per week for eight weeks. The RET groups combined a forty-five minute session on study skills development with a forty-five minute session applying rational emotive therapy techniques to the study skill topic. The non-RET groups worked on study skill development and application for the entire ninety minutes. The criterion measures of the study were grade point average, the Survey of Study Habits and Attitudes (Brown and Holtzman, 1966), and student retention.

The following research hypotheses were tested:

1. The RET study skills group will be more effective than either the non-RET study skills group or the control group in improving GPA, increasing SSHA scores and retaining students.

2. The non-RET study skills group will be more effective than the control group in improving GPA, increasing SSHA scores and retaining students.
3. No significant differences will exist between students who attend during the day or during the evening.

4. No significant differences in retention will exist between the number of students in the treatment groups who return to college and the number of people in the Thomas Nelson Community College student body who return to college.

Data analysis indicated that the control group had a significantly higher GPA and significantly higher study attitude scale scores on the SSHA at the onset of the study. Analysis of covariance procedures, using pre-test scores as covariates, were employed on post-test GPA and SSHA data to control for pre-test differences.

There were no significant differences between the RET study skills group and the non-RET study skills group at the completion of the study. Nor were there many differences between treatment and control groups following the study skills seminar. A significant difference between treatment and control groups did exist on the post-treatment teacher approval scale of the SSHA, with treatment groups reporting large increases from pre- to post-test and the control group reporting no change. Both treatment groups reported substantially larger increases on each SSHA scale than the control group. Treatment and control groups reported similar retention rates for the two quarters following the study. No differences existed as a function of the time of day students participated in the study. Students participating in the study returned to college in similar percentages to curricular students at Thomas Nelson Community College or to an estimate of the retention rate for the student body of the institution.

The data were analyzed on the basis of the amount of effort that students expended in the seminar. Final grade received in the seminar and number of seminar classes attended comprised the operational definitions of student effort. Significant differences were obtained on GPA and on each subscale of the SSHA, distinguishing students who applied themselves in the seminars from those who did not. One can conclude that a program to increase academic competence among students on academic probation can be successful, but only if the student makes a commitment to try to change previously ineffective study patterns.