

ASSESSMENT OF A MENTOR PROGRAM
ON SELF-CONCEPT AND ACHIEVEMENT VARIABLES
OF MIDDLE SCHOOL UNDERACHIEVERS

by
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(ABSTRACT)

The increasing focus on the underachiever has intensified the search for affective education models. Underachievement is frequently associated with a low self-concept. Current studies are sparse, indicating that Mentor Programs may improve self-concept, but empirical assessments are lacking.

This study investigated the efficacy of a mentor model on self-concept and achievement variables of intermediate school underachievers.

A Mentor Program model was implemented with an experimental group of 55 underachieving students in a Fairfax County, Virginia, intermediate school. A 42 student control group of underachievers in another Fairfax County intermediate school were monitored. Forty education staff

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members served as mentors to the experimental group of students. The study was of a quasi-experimental, non-equivalent control group design.

Primary measurement instruments used were the Self-Concept and Motivation Inventory (SCAMIN), an appropriate measure of self-concept in the school setting, the Grade Point Average (GPA), the standard measure of academic achievement, and the Failure Rate, including students retentions and classes failed.

Four research questions were investigated. For testing overall effects of the treatment/Mentor Program at the school level, a Value Added Analysis was performed. For testing the hypotheses, the following analyses were undertaken: ANCOVAs were performed on the achievement data; t-tests and ANOVAs were performed on the self-concept data, Chi-square, t-test, and ANOVA were performed on the failure data. Canonical Correlation Analysis was performed to explain the relationship between the predictor measures and the criterion measures. Descriptive and ethnographic information in the form of quantitative and qualitative data analyses added to the breadth of the assessment.

Results revealed that the Mentor Program produced positive, nonsignificant gains at the experimental school.

The gains were better than those at the control school, but not significantly better. Analysis of the results also disclosed changes in the study design should be considered for future research. Recommendations include two year assessments, multiple school comparisons, and longitudinal studies.

Post program results from teacher ratings, mentor and students evaluations were positive, providing qualitative statements of program worth. The findings and conclusions drawn from this study serve to further improve program evaluation and assessment of Mentor Programs.

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Special gratitude is extended to those supportive individuals at the school level, described in the business literature as the "patron system" (Shapiro, 1978, p. 19): To counseling and support staff

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CHAPTER ONE - DEVELOPMENT OF THE PROBLEM

INTRODUCTION

Underachievement has become a major topic of scholastic inquiry in the 80's. According to recent studies, underachieving students exist in this country in 'epidemic proportions' (Smart, 1985). The Underachievement Institute reports that large numbers of children who are very capable of learning are simply not performing up to their capabilities (Rimm, 1985). The findings of Pecaut (1979), from The Institute of Motivational Development, reveal that underachievers are students that lack three critical values related to academic achievement: (a) persistence to completion; (b) meeting deadlines; and (c) independent functioning. No category of student is immune from this problem: the disadvantaged, the slow learner, the gifted student, the learning disabled student, the minority student, and the non-categorical, non-labeled student (Greene, 1986; Rimm, 1985).

Schools and parents are frustrated by the performance of their students whom they perceive as not performing up to their potential. Underachievers sit in virtually every classroom, wasting educational resources, trying the patience of the best teachers, manipulating parents and

destroying their own confidence. These children direct most of their energy toward discovering ways to avoid learning in either dependent or dominant ways (Kaufmann, 1981; Rimm, 1985). Pecaut (1979) reports only 66% of teachers believe they have received any training to effectively teach underachievers. Parents generally have even greater difficulty in working with an underachieving youngster.

Why do children underachieve? Research on students ranging in age from 12 to 17 suggests there are various sources of student underachievement. The list includes emotional problems, teacher troubles, peer pressure, boredom, fear of trying and fear of growing up (Pecaut, 1979; Smart, 1985). Similarly, Rimm (1985) and Greene (1986) report causes of underachievement to include lack of motivation, values conflict, lack of environmental nurturance of intellectual potential, developmental delays or chronic health problems, specific learning disabilities or general academic skill deficiencies.

Whatever the particular source or cause, underachievement is frequently associated with low self concept. Purkey (1970) reports a strong reciprocal relationship between a positive self concept and scholastic success and a negative self concept and scholastic failure.

Early adolescence is a vibrant period in the life span, marked by changes that are critical to human development. These changes occur physically, intellectually, socially and emotionally at differing rates and in differing order (Brazeel, 1982). There is a body of literature that suggests adolescents need teachers who are child-centered as well as guidance personnel trained to be aware of their particular developmental concerns. There needs to be a "central teacher" (Unks, 1983, p. 3).

The nature of self-perception appears to undergo the same kind of dramatic change associated with an adolescent's physical, social and intellectual dimension. For this reason, middle school programs must pay the same kind of attention to self concept that is paid to these other areas. Given the important role of the school life environment in the concept of self, the task of determining how to enhance or debilitate self-concept development. These aspects include climate, grouping, curriculum organization, peer and other interaction, academic achievements and home-school relations (Beane, 1979).

Middle schools have a unique opportunity to design and implement affective education programs that enhance the adolescent's self concept. Typically, these programs have been labeled "Homebase," "Advisor-Advisee," or "Small Group

Guidance" (Doda, 1976, p. 9). Counselors are in a position to play a vital role in initiating and maintaining complete affective education programs that would address the self-concept needs of underachieving student clients.

Two special concepts add up to affective education:

(a) The development of growth-producing interpersonal relationships between teacher and students, and (b) the effective utilization of that part of the school day that focuses on the socio-emotional development of students (George, 1982; Chase, 1975). Too many teachers are living with the threatening and inhibiting notion that affective education only happens when highly structured "valuing" sessions are conducted with complicated counseling techniques. If self-concept is important, then affective education can be perceived as the 4th R--relationships. The stage is set for teacher-advisee or other such programs in the school.

By "relationships," we mean those caring relationships that will help positive self-concept development. In a school of 800 or more students, where a teacher meets as many as 125 students a day, it is virtually impossible to develop the kinds of relationships with students that allows a teacher to make a significant difference in the lives of students. Using a mentor approach, teachers become mentors

who make a difference by acting as interveners in the educational process. The proposed Mentor Program provides a forum for education regarding personal and interpersonal competence with an adult who is committed to helping each advisee (underachiever) experience personal and academic growth. The current popularity of the term in higher education suggests that mentors may play a significant role in development and transition by pointing the way and offering support (Daloz, 1983).

The research of such affective educators as Purkey (1970, 1984), Glasser (1969), Chase (1975) and Beane (1982) support the notion of self-concept and self-esteem enhancement in the school setting through either curriculum or interpersonal relationships. While Chase (1975) and Beane (1982) advocate incorporating self-concept activities into the curriculum, Glasser (1969) and Purkey (1984; 1987) support a teacher-student humanistic approach toward underachievement.

Affective education theorists believe that if a teacher would get personally involved with students, most school failure could be eliminated (Glasser, 1969). The research of Haring-Hidore (1986), Obler (1977), and Turkel and Abramson (1986) supports this notion. Findings suggest retention rates were reduced with academically deficient

students participating in mentoring programs in secondary and college levels.

Chase (1975) focuses on, "the other side of the report card" (p. 2). He explains that it is that half of the report card that tells what the teacher thinks of the student's attitudes, social habits, emotional stability, study skills, class participation and homework responsibility. It is this affective domain that is directed to social-emotional issues which consume at least half of the teacher's time. Chase (1975) suggests that we do for social and emotional growth what we have done so well with reading. He calls it a "Right To Feel Good About Yourself Program" (p. 3). Given a program designed to improve students' self concepts by the students gaining insight into "who they are," before they are concerned with "where they are," mentoring becomes an affective process that brings about cognitive outcomes.

BACKGROUND

Fairfax County, Virginia

In Northern Virginia, the Fairfax County School Board priorities are implemented through the Annual Operating Plan, which contains specific objectives for the current school year. In 1984, the Board adopted a six-year plan

which included the goal addressing underachievement. Fairfax County serves a student enrollment of approximately 129,000. The diversity in the student population includes a student minority population of 21.6%. As the total minority student population continues to grow steadily, it has become increasingly important to address the needs of the underachievers in this population. In his State of the School System Address, Dr. Robert Spillane (1987) offered the following demographic data and trends provided by Dr. Harold Hodgkinson, (author of 'All One System: Demographics of Education, Kindergarten Through Graduate School'):

"By the Year 2000, one in three Americans will be non-white and minorities will cover a broader socio-economic range than ever before....making simplistic treatment of their educational needs less useful. Historically, Black students have been the largest minority group in Fairfax County schools. Currently, 9% of the minority enrollment is Asian, 8.7% is Black and 3.8% is Hispanic" (p. 3).

According to the comments of Dr. Hodgkinson, as they relate significantly to Fairfax County's minority student achievement efforts and to its special needs schools, his bottom line is:

"The rapid increase in minorities among the youth population is here to stay. We need to make a major commitment, as educators, to see that all our students....have the opportunity to perform academically at a high level. There will be barriers of color, language, culture, attitude that will be greater than any we have faced before, as Spanish-speaking students are joined by

those from Thailand and Vietnam. The task will be not to lower the standards but to increase the effort. To do so will be to the direct benefit of all Americans, as a new generation of people become a part of our fabric, adding the high level of energy and creativity that has always been characteristic of groups who are making their way in America. Their numbers are now so large that if they do not succeed, all of us will have diminished futures. This is the new reality" (p. 4).

Based upon a review of the literature on Teacher/Advisee and Mentor Program models, this researcher drafted an affective education model designed to meet the self-concept and academic needs of underachievers; majority and minority, herein referred to as the "Mentor Program." A pilot study, financed through a Fairfax County Minority Achievement Grant, was conducted by this researcher at Glasgow Intermediate school during the 1985-1986 school year. Glasgow served a student population of 830 seventh and eighth graders. Approximately 49% of the student population was classified as minority. The school offered English as a Second Language (ESL), Gifted and Talented (GT local and center), Learning Disability Resource (LDR) and Learning Disability Self-Contained (LDSC), and Chapter I Compensatory Education. The population had a representation from 54 countries and included 27 primary languages.

A needs assessment revealed that Science Research Associates (SRA) reading scores of Blacks, Hispanics and

Asians were 22 percentile points below Whites. Similar discrepancies existed in Language Arts scores between Blacks and other student populations at Glasgow. For the past two years, failure rate for the entire school averaged approximately 7.7%. End of the year 1984-85 failure rates were: Blacks 11%, Hispanic 8%, Whites 6% and Asian 3%. In addition to reducing poor achievement and failure, the objective was to improve motivation and self-esteem of all underachieving students.

The Mentor Program was designed to give early identification and personal attention to the academic improvement of pupils with Ds and Fs in academic subjects. The roots of the program lie in suggestions emanating from the school's Minority Achievement Committee as an approach to be applied to the problem of underachievement by all students, including minority underachievers. Components of the program became part of the school's mission statement, annual operating plan, and school improvement objectives on minority achievement, as mandated by the county. The school's guidance department, working with administrators and teachers, developed a program called the Mentor Program. Intermediate students, grade 7-8, in the program were called Mentees. Volunteer staff persons working with the students were called Mentors.

The Pilot Program population consisted of 40 Mentors (educational staff) and 80 Mentees. The program had five major components: 1) orientation for students and parents, 2) inservices and meetings for Mentors and parents, 3) Mentor-Mentee weekly meetings, 4) group guidance study skills monthly sessions, and 5) program evaluation (see appendix A). This researcher served as program manager. Program assessment included qualitative and quantitative data collection and analysis.

Program evaluation results revealed growth in Grade Point Average (GPA) from pre program to post program, growth in self-concept as reported by the Self Concept and Motivation Inventory, a reduction in school failure rate from the previous school year, and positive responses from students, Mentors and parents. The program evaluation served to help plan the 1986-1987 school year program and provided two lines of inquiry relating to expansion and assessment: (1) the need to expand the Mentor Program for underachievers a second year offering the intervention to continuing mentees and to newly identified underachievers, and (2) the need to subject what occurred last year to the rigors of a study.

A quasi-experimental study was conducted during the 1986-1987 school year. It included an experimental school

and a control school. Partial support for this study was in the form of a Fairfax County Minority Achievement Grant. Like the Pilot Program, the study was designed to buttress the support milieu of underachievers, majority and minority students, so that grades, self-concept and overall academic and personal growth would improve. Hence, the 1986-87 study was conducted to subject the pilot mentoring model to empirical testing in an attempt to establish efficacy.

PROBLEM STATEMENT

A review of the literature on assessment of teacher-advisory programs and tutoring interventions disclosed few studies. Yet, a review of the studies assessing counseling interventions with underachievers and low achievers finds many calls for programs that assess these interventions using a control group for comparison (Chase, 1975; George, 1982; and Wilson, 1986). There appears to be no distinct line of research that could be found with respect to mentoring in academic settings. Furthermore, a dearth exists in the literature on mentors in the public education at the secondary, intermediate and elementary levels, therefore:

The focus of this study was to conduct an assessment of



a Mentor Program on self-concept and achievement variables of middle school underachievers.

PURPOSE OF STUDY

The purpose of this study was twofold: (a) to conduct a study of the efficacy of a Mentor Program model with intermediate school underachievers, and (b) to identify the unique problems on assessing such a model.

This was accomplished through completion of the following tasks:

1. Review of the extant literature.
2. Identify measurable characteristics of self concept.
3. Classify measurable characteristics of achievement.
4. Compare pre and post effects of Mentor Program.
5. Assess the linkage between Mentor Program and underachievers.
6. Validate the Mentor Program effects on academic achievement of underachievers.

It was expected that the findings would be useful for program evaluation and serve as a guide to further improve the empirical assessment of future mentor programs.

RESEARCH QUESTIONS

To accomplish the identified purposes above, the scope and the direction of the investigation were determined by the following research questions. The independent variable is the treatment; mentoring. The dependent variables are achievement and self-concept growth:

1. What is the difference between pre and post experimental and control groups on GPA gain, adjusted for initial SRA Growth Scale Value (GSV) (composite) and Education Ability Series (EAS) (ability) scores?
2. What is the difference between experimental and control groups on self-concept, as measured by a comparison of pre and post SCAMIN scores on the four variables measuring self-concept?
3. What is the difference between experimental and control groups on failure rate as measured by end of year student failure rates?
4. What is the relationship between the predictor (independent) measures and the criterion (dependent) measures?

HYPOTHESES

The hypotheses of the investigation were stated in null form to facilitate statistical treatment of the findings. The hypotheses will be tested on the basis of mean differences on the dependent measures after seven months of student participation in the mentor program.

Each research question listed in the Statement of the Problem was keyed to one or more hypotheses:

1. There is no difference between experimental and control groups on GPA gain, adjusted for initial SRA GSV (composite) and SRA (ability) scores.
2. There is no difference between experimental and control groups on self-concept, as measured by a comparison of pre and post SCAMIN scores on the four variables measuring self-concept.

Sub-hypotheses:

- (a) There is no difference between experimental and control groups on pre and post achievement needs variable.
 - (b) There is no difference between experimental and control groups on pre and post achievement investment variable.
 - (c) There is no difference between experimental and control groups on pre and post role expectations variable.
 - (d) There is no difference between experimental and control groups on pre and post self-adequacy variable.
3. There is no difference between experimental and control groups on failure rate as measured by end of year student failure rates.
 4. There is no relationship between the predictor (independent) measures and the criterion (dependent) measures.

LIMITATIONS

Subjects will be from two schools in a suburban upper-middle class district. The experimental school has a 51% white population and a 49% minority population, which

includes 9% Black, 15% Hispanic and 25% Asian. The mean SRA composite score was at the 67th percentile and the mean EAS (ability) score was at the 65th percentile for the 1986-87 school year. The school offers English as a Second Language (ESL), Gifted and Talented (GT Local and Center), Learning Disabled (LDR and LDSC), Speech Impaired and Chapter I Programs. The control group school has a 61% white population and a 39% minority population, which includes 9% Black, 9% Hispanic, and 21% Asian populations. The mean SRA composite score was at the 76th percentile for the 1986-87 school year. The school offers English as a Second Language (ESL), Chapter 1, Gifted and Talented (GT local), Learning Disabled Resource (LDR), and Speech Impaired programs.

Students were seventh and eighth grade intermediate school students. Identified underachievers were from the following school populations: the disadvantaged student, the slow learner, the gifted student (GT local), the learning disabled resource student (LDR), the minority student and the non-categorical student. Underachievers and low achievers were participants.

Subjects were from two different schools. They were, therefore, subjected to the grading characteristics unique to individual teachers and departments in each school.

Random assignment of schools and students to treatments was not possible in this setting. In a pseudoexperimental design, the following were threats to internal validity: history, testing, selection-maturation interaction, mortality and statistical regression. Threats to external validity were the reactive or interaction effect of testing and selection bias for the comparison group.

Mentors varied in their individual style. Participation in one preservice and three inservices, close monitoring of mentor-mentee meetings, plus the use of a Mentor Guide were attempts at addressing confounding variables.

Halo effect may have influenced first quarter grades, SCAMIN pretest scores, and teacher ratings on experimental group data. Mentoring was a part of the climate at the experimental school, as treatment began taking effect as the school year began. Hawthorne effect may have confounded performance on self-concept pretest.

The control group experienced some contamination due to several factors: (a) An unclear understanding by the control school contact person of what a control group meant in terms of no intervention or treatment, and (b) the desire to provide an intervention to an identified group of

underachievers as a response to the mandate to address minority achievement in Fairfax County Public Schools. The intervention, while not a mentor program, took the form of a series of career preparation activities, counselor-student meetings and monitoring of grades, and community tutors for some of the control subjects. This information was revealed to this researcher after post testing.

DELIMITATIONS

Underachieving students were from two intermediate schools in Area II of the Fairfax County Public School system, Northern Virginia. These schools have been identified as "special needs" schools.

Students were identified as underachievers from applying specific criteria (see definitions section).

Sample groups were small.

Since the students were not randomly selected for the study, and the treatment took place at the school level, instead of the student level, the random unit became technically the school. Therefore, since there is only one school in each comparison group, $N=1$.

The analysis of covariance was considered an inappropriate strategy for the analysis of the SCAMIN data according to the author (N. Milchus, personal communication, August 17, 1987).

DEFINITIONS

Achievement--For purposes of this study, academic achievement will be measured by a comparison of Pre Program (First quarter interim grades) and Post program (Final) Grade Point Averages (GPA). A GPA is a computed mean score from the six grades awarded for the quarter as recorded on the student record. Grades are determined according to the official Fairfax County Public School grading scale which is: A=94-100, B+=90-93, B=84-89, C+=80-83, C=74-79, D+=70-73, D=64-69, F=below 64. The following points were awarded: An A=4.0, B+=3.5, B=3.0, C+=2.5, C=2.0, D+=1.5, D=1.0 and F=0. Grades are a meaningful measurement of student performance to student, teacher, and parent. The GPA, while providing a global assessment of performance, is usually the chief criteria for promotion (Wilson, 1986). In this study, achievement is the dependent variable.

Affective Education--Programs that typically enhance the student's self-concept and effect a change in the non-cognitive areas of self-esteem and motivation (Doda, 1976).

In this study, mentoring becomes the affective education program. It is the treatment or independent variable.

Failure--For purposes of this study, failure is defined by two variables: a) End of school year student failure (retention) rate, which occurs in Fairfax County Public Schools when a student fails English and/or Math as recorded on the final grade report, and b) number of classes failed by students as recorded by the end of the year final grade report. In this study, failure is a dependent variable related to the achievement measure.

Mentee--Term commonly found in the literature and used in this study as basically the individual who is the object of this study. A mentee is the seventh or eighth grade intermediate student participant in the Mentor Program, who has been identified as an underachiever.

Mentor--An educational advisor and advocate for the underachiever; that "significant other." Uniquely, each mentor strives to improve academic performance of the student by acting as an intervenor in the educational process. For purposes of this study, a mentor should be viewed in terms of a "teacher helper" concept, distinct from a pure counseling concept. Volunteer educational staff (teacher and administrators) served as mentors.

Self-concept--For the purposes of this study, self-concept is defined by the Self-concept and Motivation Inventory (SCAMIN). Two factors are combined to provide for the concept of self-esteem: Self-Concept and Motivation. Self-Concept is made up of two cofactors: Role Expectations and Self-Adequacy. In this context, therefore, self-concept means Role Expectation, which is defined as the positive acceptance of the aspiration and demands that the student thinks others, significant others, expect of him. The second cofactor of self-concept is called Self-Adequacy, which is defined by SCAMIN as the positive regard with which a student views his present and future probabilities of succeeding in life. The second factor is Motivation, which is made up of two cofactors: Achievement Needs and Achievement Investment. Therefore, motivation defined by SCAMIN means Achievement Needs, the first cofactor, which is the positive regard with which a student perceives the intrinsic and extrinsic rewards of learning and performing in school. The second cofactor is Achievement Investment (or failure avoidance), which is the awareness and concern toward shunning the embarrassment and sanctions which are associated with failure in school. Anxious failure or failure anxiety stifles achievement. In total, we will be looking at four variables that measure self-concept and motivation (Milchus, Farrah and Reitz, 1968). In this study, self-concept is the dependent variable.

Underachiever--For purposes of this study, an underachiever as defined in the Intermediate and Secondary Teacher's Guide Grading and Reporting to Parents, Fairfax County Public Schools, August 1986, will be used (See Appendix B). One or more of the following criteria will serve to identify the learning characteristics of the underachiever; A student whose school performance falls below the performance levels indicated in standardized aptitude tests (a comparison of the SRA GSV Composite and EAS ability scores); a student who is on the D, F list in English and/or Math at interim time of the first grading period; a student who exhibits specific signs of an underachiever consistent with the Underachievement Profile from the Institute of Motivational Development (Appendix A). The behaviors most frequently observed in their student clients include: (a) Scores average or better on intelligence tests, but consistently brings home poor grades; (b) Shows little initiative in doing household chores, not a self-starter, must be nagged; (c) Is immature in relationships with adults, sees any criticism as being "picked on;" (d) Has a short attention span; (e) Can do well only when he/she feels like it; and (f) Lacks self-confidence especially around kids his/her own age (P. Spevak, personal communication, July 26, 1986). Students were identified at First Quarter Interim time through teacher or counselor referral, based upon this set of criteria.

ASSUMPTIONS

The following assumptions are made in this study:

1. Achievement is a goal of education.
2. Self-concept is related to achievement.
3. Underachievers are an increasing concern of educators.
4. Historically tutors (one-on-one) have been employed to provide academic support to underachieving students.
5. Teacher-advisee programs are an accepted current state of the art approach to affective education in the schools.
6. The Self-Concept and Motivation Inventory is an appropriate instrument.

NEED FOR THE STUDY

This study is important because it represents one of the few attempts to assess the impact of a teacher-advisee (mentor-mentee) approach on improving the self-concept and academic achievement of underachievers. Whereas assessment studies of tutorial programs is modest, current research on assessment of advisory programs is sparse. Alexander and George (1981) report that while such studies are, overall, encouraging, there are still too few well-designed studies of these programs to permit more than modest speculation about their ultimate value. Furthermore, research on

assessment has been recommended in the review of literature (Merriam, 1983, Wilson, 1986).

As a preventative and alternative approach for special education, some researchers, (Ysseldyke and Algozzine, 1983; and Ysseldyke, 1983) suggests the development of alternative service delivery models for those students who need extra services to succeed in school but who do not qualify for special education services. They advocate putting more energy into improving service delivery systems for children who are failing in school than into clarifying precise definitions of specific labels. This study could show that a Mentor Program is such a service delivery model. This notion is supported by a position statement on Advocacy for Appropriate Educational Services for all Children passed by the Executive Board/Delegate Assembly of the National Association of School Psychologists on April 10, 1985 (Education for the Handicapped Law Report, 1985). This study is important from the standpoint that it illustrates how special education is not the only viable alternative for special help.

Another outcome of this type of intervention might be the reduction in the number of completed referrals to special education local screening committees. An increasing number of children are being found eligible for Learning

disabilities services in our nation (Kirk, 1984). In fact, the enrollment showing the largest numbers of students in special education who have not been served before peaks at the age of 13. National enrollment in programs for the Learning Disabled rose from 1,135,559 students (2.31%) in 1978-79 to 1,745,865 students (3.82%) in 1982-83. The Seventh Annual Report to Congress shows the figures to be at 1,811,489 for the year 1983-84, making up 42 percent of the total special-education population. For 1986-87, 43.6 percent were classified as learning disabled (1,926,097) (U.S. Department of Education, 1988). A review of the literature suggests several explanations for the large-scale Learning Disability (LD) identification. They range from misdiagnosis and misclassification to an unwillingness on the part of regular education to modify curriculum and programs in order to better meet the diverse needs of all children (Kirk, 1986; Chalfant, 1985; Algozzine, 1985; Tugend, 1985).

In a summary of the National Task Force Report, which identified practices and procedures currently being used to identify Learning Disabled students in the nation's schools, Chalfant (1985) identified nine factors contributing to misidentification. Of the nine factors, the fourth factor could be explained by practices in those schools which either (a) did not provide a support system to borderline

students who are ineligible for special education services or (b) did not have a system for helping classroom teachers cope with these problems in the classroom. (Chalfant, 1985; Algozzine, 1985).

The data reported in the Eighth Annual Report to Congress indicated that despite the overall decrease in the numbers of children served in the age group 12-17, there is a surge of referrals at the age of thirteen years old (U.S. Department of Education, 1986). Additionally, data in the Sixth Annual Report to Congress indicated there is a corresponding rise in assessments at the junior high level (U.S. Department of Education, 1984). The Tenth Annual Report shows the total number of handicapped children served peaked at age eight and slowly declined until age 14, when there was a slight increase in the 1985-86 school year (U.S. Department of Education, 1988). Once a child is referred to the local screening committee, the chances of a special education label resulting are high (Wilson, 1985; Ysseldyke and Algozzine, 1983). The effect of teacher referrals on being self-fulfilling prophecies is a notion supported in the literature (Ysseldyke and Algozzine, 1983; Tugend, 1985). Conversely, if a mentorship intervention could serve as a preventative and/or an alternative to special education, it might also serve to influence a reduction in the number of referrals to the local screening committee and

ultimately impact on a reduction in the number of labeled learning disabled students in the school.

Researchers in the field of special education identification (Reynolds and Wang, 1981; Reynolds, 1985; Moran, 1985; Lambert, 1988) propose a challenge for special education and regular education to join forces on a collaborative basis to find ways of serving all students special or not. This notion is supported by Madeleine Will, Assistant Secretary for Special Education and Rehabilitative Services. Will (1986) calls for the development of creative, new multi-pronged strategies between regular and special education staff at the building level to serve the students with learning problems who do not fit neatly into "compartmentalized delivery systems" (p. 5).

A mentoring relationship is created to meet important developmental needs for the student client, yet equally important are the benefits both Mentor and Mentee derive from this partnership. A serendipitous outcome may have been professional growth in terms of staff development. Clearly, there were qualitative outcomes that were not subjected to the rigors of empirical testing. In educational studies of this nature, it will be important to look at the practical significance of the findings as well as any statistical significance.

SUMMARY AND ORGANIZATION OF STUDY

The search for affective education program models has grown more intense with the increasing focus on the underachiever. A few studies seem to indicate that a Mentor Program has affective consequences, but empirical assessments are lacking. The pitfalls and barriers to such an empirical assessment are not well understood. It was the purpose of this study to assess whether a teacher/mentor-student/mentee program would enhance the student's self-concept and achievement, and, tangentially, to learn what needs to be done in order to correctly measure the results of such a program.

The remainder of the study will consist of four chapters to include the following: Chapter Two, a review of related literature; Chapter Three, methodology and procedures; Chapter Four, the analysis and interpretation of the data; Chapter Five, summary, conclusions, recommendations, and researcher's commentary.

CHAPTER II - REVIEW OF THE LITERATURE

INTRODUCTION

The purpose of this chapter is to review the literature and explore the state of the art relevant to this study. Answers were sought to two basic questions: a) What has been the findings of previous researchers and practitioners in the field? and b) What implications were made for further research? This chapter will be divided into sections relating to essential constructs of the problem statement. The first section discusses the self-concept and achievement research for this study. The second section highlights the current literature on the underachiever, the population from which a sample is drawn for this study. The third section reviews the literature on affective education interventions. The fourth section summarizes the literature on mentoring and mentorships; origins and practices. The fifth section summarizes assessment of a one-to-one relationship with underachievers found in the literature. The conclusion summarizes the implications for a mentoring relationship found in the literature review as they relate to assessment and measurement of affective education programs.

ASSUMPTIONS AS STARTING POINTS

The six assumptions in Chapter One serve as the starting point for this study. However, they require clarification in order for the reader to understand the theoretical and conceptual framework influencing this research. It is further assumed that two of the listed assumptions are common knowledge among educators in the field. These are: (a) that achievement is a desired goal of education (1st assumption), and (b) that underachievers are an increasing concern to educators (3rd assumption). The first assumption stands alone and needs no discussion. The third assumption, because of its current focus, is further clarified by the literature presented in this review. The second assumption suggesting self-concept is related to achievement is supported by a review of the literature on this relationship. While these two constructs, self-concept and achievement, are dependent variables in the study, it is not the intent of this study to test this relationship, but rather to provide the theoretical background for the study's direction. This does not preclude, however, that the findings could challenge this assumption. The fourth assumption: that tutors have been employed to provide academic support to underachieving students for remediation of skills, is included in this literature for purposes of establishing a research base on

cognitive assessment practices and procedures of a one-on-one relationship. The fifth assumption: that teacher-advisee programs are an accepted state of the art approach, is documented by the literature on affective education in the schools. This assumption provides the conceptual framework for the treatment intervention. The sixth assumption, regarding the self-concept instrument, is discussed in Chapter Three.

SECTION ONE: SELF-CONCEPT AND ACHIEVEMENT

One is not born with a concept of "self." Yet, each person develops such concept over the years and thus comes to view the "self" in a given way. There is a body of literature that suggests a linear relationship between self concept and academic achievement at each grade level. This same literature also indicates that change in either concept is related to and associated with change in the other (Purkey, 1970). The relationship between self-perception and achievement has been established in numerous studies and reviews (Brookover, 1962; Combs and Soper, 1963; Coopersmith, 1967; Purkey, 1970). The findings of these researchers have revealed that students with high self-esteem tend to achieve better academically than those with low self-esteem. In fact, self-esteem appears to have a

stronger relationship to school achievement than ability or motivation (Coopersmith, 1967).

Over the past two decades, self-concept has become a central part of many human personality theories and the basis for numerous programs in education. Theorists (Combs and Snygg, 1959; Rogers, 1967; Combs, Avila and Purkey, 1978) have postulated that maintenance and enhancement of one's perception of self are the motives behind all human behavior. Generally known as self-concept theory, this basic assumption can be applied to the classroom. How a student views himself as a learner can directly affect his classroom behavior and academic performance. Examination of this basic assumption has led to a vast collection of data relative to the significance of positive self-concept, the sources of self-esteem and the relationship of self-concept to academic achievement (L. Jones, 1980).

Definitions of Self Concept and Achievement

Of all self-prefixed terms currently employed to identify or describe some facet of the self, the terms self-concept and self-esteem remain the most popular. Germain, (1978) sought to clarify the differentiation between the self constructs by defining them. He defined the self, as "that which is real, true or absolute about an individual."

It comes into existence when an individual becomes a separate entity. The second construct, self-concept, was defined as "the result of an individual's beliefs about the self." Self-concept begins when an individual is aware of being a separate entity. According to Germain (1978), the individual can differentiate those events emanating from or involving one's self from those events that are not related. Self-concept can, therefore, be defined as the description of self, while self-esteem is defined as the judgment concerning the worth or value of the self (Beane and Lipka, 1979). There are feelings and values about the concepts and beliefs about self. This valuation component is called self-esteem (Germain, 1978).

The importance of positive self-regard has been supported by Coopersmith (1967), who studied the antecedents of self-esteem in nearly 1800 children over a period of eight years. He found pervasive and significant differences in the experiential worlds and social behaviors of persons who differed in self-esteem. Persons high in their estimation approached tasks and persons with the expectation that they will be successful. Conversely, person with a low self-regard approached tasks and persons with negative expectations and self-defeating behaviors (Coopersmith, 1967; Jones, 1970; Johnston and Markle, 1981).

Self-image, a related term, represents the composite of a child's conscious and unconscious perceptions about himself (Greene, 1986). This composite reflects the child's experiences in life. Positive life experiences tend to produce children who like and accept themselves. Such children are typically achievement oriented. Greene (1986) refers to a self-image/self-esteem loop, which is created to reflect the child's perceptions of himself. He reports a positive self-image encourages the growth of self-esteem, which in turn encourages positive expectations, which encourages achievement. The loop turns in both directions; achievement stimulates self-esteem, and self-esteem stimulates achievement.

Greene (1986) adds additional elements to the child's sense of self. They include self-appreciation, self-acceptance, and self-confidence. He refers to this amalgam as the "child's self-quotient, or SQ" (p. 69). The child who has a low SQ will generally have difficulty achieving because his lack of self-esteem, self-appreciation, self-acceptance, and self-confidence will directly impact on his level of expectations. The irony of this, however, is that achievement might permit the child with a low SQ to feel better about himself, but the child's low SQ functions to inhibit achievement. In his work with over six thousand underachieving students, Greene (1986) has found this

relationship of self-image and achievement inextricably linked.

The emerging literature is so vast on this variable that for purposes of this study, self-concept is described to mean self-concept of school ability (Brookover, 1962; Brookover and others, 1964; Purkey, 1970). Because of the lack of a fine distinction between all self-prefixed terms currently employed to identify or describe some facet of the self, the term self-concept defined by the Self-Concept and Motivation Inventory (SCAMIN) will be employed. It includes two major factors, Self-Concept; made up of role expectations and self-adequacy and Motivation, made up of achievement needs and achievement investment. These factors allow for quantitative assessment.

Measures of scholastic achievement for purposes of this study means academic performance as measured by the grade point average and failure variables and includes teacher ratings of those student behaviors and skills necessary for academic performance (see Chapter One, Definitions Section for operational definitions). These measures of achievement are supported in the literature (Jones, 1970; Turkel and Abramson, 1986; Wilson, 1986).

Self-Concept in Adolescents

Adolescents, in contrast to children, perceive in themselves sets of underlying abilities, motives and personalities. The adolescent is able to infer a set of beliefs and personal styles that are unique while assessing their competencies in order to review their self-concept, personal philosophy and identity. Purkey (1970) reported the self is organized into spirals representing beliefs which everyone holds about oneself. The self is the center of his or her personal universe. Everything is observed, interpreted and comprehended from this personal vantage point. Human motivation is a product of the universal striving to maintain, protect and enhance the self. To that end, Johnston and Markle (1981) summarized that students with high self-esteem approach tasks with the intent that they will succeed, whereas students with low self-esteem believe they will fail.

Age focused research regarding self-perceptions revealed important information about adolescents (Brookover, 1962; Guerriero and Coldiron, 1975; Goodwin, 1977; Bailiffe, 1978). In a study that included interviewing 381 inner city, junior high school students, Bailiffe (1978) found that almost ten percent consistently saw themselves as incapable of learning. Among the findings regarding self

perceptions was the finding that almost half of these students wished they were someone else. Consistent with this finding was a finding reported in a study by Guerriero and Coldiron (1975) who found that forty-nine percent of the eighth graders reported that they often wished they were someone else, while thirty-four percent were made not to feel good by their teachers. Goodwin (1977) found that fifth and eighth grade students from conventional homes had significantly higher self-esteem than counterparts from unconventional homes. Given the growing number of students coming to school from single-parent homes, this study has particular importance.

The research of Brookover (1962; 1964) supports the generally high correlation between self-concept/esteem and school achievement at the middle school level. He and his colleagues reported correlations of .42 and .39 between grade point average and self-concept for one thousand urban seventh graders. While this relationship is not strong, it is statistically significant.

A significant decrease in both self-regard and attitudes toward school apparently occurs with advances in age and grade level (Morse, 1964; Katz and Zigler, 1967; Schwartz, 1967; Kremer, 1981). The major findings of these studies and others support the view that the self-concept

develops in a basically continuous and stable fashion across the adolescent years. Peer relations were found to be a major factor in contributing to a child's self-image and self-esteem. The better accepted a child is by his or her peers, the better adjusted that child is.

Not only do peers influence self-concept, but teachers do as well. Spaulding (1963) found a significant relationship between a student's self-concept as reported and the degree to which teachers are calm, accepting, supportive and facilitative; and a negative relationship between a student's self-concept and the teacher's behavior when it involved personal, private talks with students. Other research (Chamberlin, 1981; Wolf, 1981; Turner and Purkey, 1983; Today's Education, 1982) support this notion of teacher influence on self-concept of adolescents.

The schools are doing something to effect the self-concept of students, but not what many educators are hoping for. The longer a student attends school, the less favorable his or her self-concept becomes (Kremer, 1981). Low self-concept students were also found to enter a form of conflict whenever they succeed, because success defines their own self-expectation. In recording case studies of underachievers, Greene (1986) reported they may go so far as to reject the success they have earned by sabotaging their

own efforts. Relative to this notion, Liska (1975) identified the way in which self-concept may affect behavior by pointing out that an individual will seek consistency. That consistency may take the form of disruptive behavior in order to reinforce the established image. Children like this do not give themselves permission to succeed in school. For this to happen, Greene (1986) recommends that the child has to extricate himself from the self-defeating cycle that was controlling his life and the lives of those with whom he interacted. He may need counseling support for this to occur.

Self-Concept of Ability

Self-concept can not be understood if its multi-dimensionality is ignored. In a study of 559 fifth graders, inferred self-concepts based upon responses by peers, teachers, and academic measures were collected. Results indicated student, teacher, peer agreement was statistically significant for most self-concept dimensions. Academic achievement scores were significantly and positively correlated with self-concepts based upon self-reports in academic areas, but not non-academic areas. The findings demonstrate the formation of self-concepts is affected by different processes than the self-concepts inferred by significant others, and that academic self-concepts are

affected by different processes than the academic achievement which they reflect (Marsh, 1984).

Self-concept of ability is a better predictor of success in school than is over-all self concept (Brookover, 1965; 1967). Jones and Grieneeks (1970), administered affective instruments to 411 girls and 466 boys, all of whom were sophomores at the University of Texas. The non-intellectual measures employed were Identity Rating Scale, Self-Concept of Ability, and Self-Expectations. These, along with a measure of scholastic aptitude, were used to predict scholastic achievement. All variables were positively associated with achievement, and all, with the exception of self expectation and scholastic aptitude were positively associated with each other. Their findings inferred, at this developmental period, that self-perception appears to be the most accurate predictor of academic achievement.

Results of a study involving 3,254 students in grades 5 through 8 at four middle schools, support the assumption that a student's self-concept as a learner (self-concept of ability) was significantly related to his or her behavior in the classroom (Branch, Purkey, and Damico, 1976). These studies suggest there is a persistent relationship between

self-concept as a learner and student disruption, although conclusions as to cause and effect remain unformed.

There exists a strong reciprocal relationship between a positive self-concept and scholastic success and a negative self-concept and scholastic failure. Results of Purkey's research strongly supports the assumption that a student's self-concept as a learner was significantly related to his or her behavior in the classroom. Bailiffe (1978) suggests that improving the concept of self as a learner will probably increase the probability of academic success. This approach is supported by Greene (1986), who advocates an intentional quotient (IQ) for students to become convinced they can learn. His case study findings suggest self-assessment exercises to gain insight into goal-setting, effort, and intentionality. It should be noted that self-concept and esteem appear necessary, but not sufficient for academic success (Purkey, 1970). For instance, if the task is far beyond the ability or achievement level of the student, positive self-esteem will be of little help (Beane and Lipka, 1979).

The findings reported by Branch, Purkey, and Damico (1976) suggest compelling philosophical and psychological reasons for teachers and other helpers to be greatly concerned with how students feel about themselves as

learners. Self-concept as a learner may account to a larger degree for academic achievement and it may be enhanced by teacher action. To the extent that schools allow students not to achieve, they are serving as a debilitating factor in this area (Beane and Lipka, 1979).

Underachievement, Failure, and Self-Concept Development

Kremer (1981) reported the research by Combs (1964) who summarized the relationship between underachievement and self-concept. In his study, underachievers differed from achievers in that they saw themselves as less adequate, less acceptable. They demonstrated an inefficient and less effective approach to problems and showed less freedom and adequacy of emotional expression.

Today, increasing numbers of students fail to gain a successful identity and react illogically and emotionally to their failure. No matter how sensitively teachers and parents handle a retention, the students understand that they are being taken from their agemates because of some failure (Smith and Shepherd, 1987). According to Byrnes and Yamamoto (1984), this upsets them and causes them to feel shame. Next to blindness and death of a parent, children rate the idea of retention as most stressful.

Glasser (1969) believes that if a child can succeed in school, his chances for success in life are excellent. If he fails at any stage in his educational career, his chances for success in life are greatly diminished. He says, "Those who fail usually resent school, continue to have poor self-images, and too often become serious problems for the school and for society" (p. xi). According to a survey of 17 major metropolitan districts, students who are held back a grade are four times more likely to drop out than those who have never been held back (Hahn, 1987).

The body of literature on the gifted underachiever characterizes self-attitude problems centering around several behaviors. They include: (a) failure to make proper identification with adults, (b) anti-social behavior, over hostility or anger, (c) narrow range of interests, (d) low aspiration level and (e) blaming others for failure. Causes of these behaviors range from slowing of brain growth, poor nutrition, peer influence, "burn out," and family pressures (Gallagher, 1975; Rimm, 1984).

For many children, the desire to achieve in school is hampered by experiences at home. The necessity of learning cannot compare to the necessity of surviving at home as a family member. Allers (1984) found adolescents from broken homes exhibited proportionately more anxiety and

restlessness than was typical for someone their age with both parents living in the home. They were preoccupied with the family change and had difficulty attending to tasks. Daydreaming and depression were common. Some youngsters became very sensitive to criticism. Findings suggested stresses associated with divorce, contemporary films or television programs may result in free-floating anxiety. This finding is supported in the literature on adolescents. Elkind (1981) found that free-floating anxiety can take the form of severe depression and contribute to suicide in adolescence.

Conversely, Glasser (1969) does not accept the rationalization of failure commonly accepted today, that young people are products of a social situation that precludes success. He contends that blaming failure on homes, communities, culture, background, race, or poverty serves two purposes: (a) it removes personal responsibility for failure, and (b) it does not recognize that school success is potentially open to all young people. He believes that if a student can gain enough responsibility to work hard in school, and if built-in barriers to success are removed from all schools, many of the "detrimental conditions" can be overcome (p. 5).

It's not just the stress of schooling, but how the stress is perceived and responded to that will determine whether or not the young person experiences school "burnout" (Elkind, 1981, p. 174). Learned helplessness is a "flight reaction" response which can occur in school when a child is confronted with learning tasks that are too difficult for his or her perceived level of ability (Elkind, 1981, p. 176; Greene, 1986). Children with learning problems are not the only ones at risk. Those with subtle or hard-to-define problems are also psychologically vulnerable. Because underachieving children seldom experience significant success at anything they undertake, they lack tangible proof of their ability. They conclude they are incapable of success and adopt a negative self-image. Underachieving children may develop phobic reactions to protect themselves from having to confront their limitations. They prevent failure by expecting very little for themselves and from themselves. Greene (1986) found this acquired helplessness to manifest itself in an unhealthy symbiotic dependency between children, parents and teachers.

SECTION TWO: UNDERACHIEVEMENT AND THE UNDERACHIEVER

As many as fifty percent of students in school underachieve according to the literature on underachievement (Pecaut, 1979; Rimm, 1985; Greene, 1986). Underachievers

fall into a grey area in the field of education. While agreement exists that the problem is of great magnitude, no universally accepted definition of underachievement exists. Implicit, however, is the common thread that underachievers do not perform to expected levels of perceived or tested ability or aptitude. More simply stated, underachievement represents a discrepancy between children's performance in the classroom and their intellectual abilities.

Researchers and practitioners in the field of underachievement have attempted to differentiate types of underachievement. According to Greene (1986) underachievement manifests itself in the following three basic forms:

- "1. Generalized underachievement. The child who manifests underachievement functions at a level below his potential in many areas of his life. He/she may have athletic ability, academic ability, and/or artistic ability, yet fail to perform commensurate with his potential. Although he/she may 'get by,' he/she seldom excels. Typically, parents and teachers attribute his underachievement to laziness, irresponsibility, or insufficient motivation.
2. Selective underachievement. The selectively underachieving child develops his/her ability in one or more areas but functions marginally in other areas. He/she may choose to perfect his musical skills because he has natural musical talent but avoid athletics or specific academic subjects because he lacks natural facility or interest in these subjects.
3. Nonachievement. The nonachieving child typically has poor academic skills, poor social skills, and low self-esteem. The problems of the nonachieving

child are often compounded by irresponsibility. This self-defeating behavior functions as a psychological defense mechanism. The chronically irresponsible child is protecting himself from frustration and failure. The defense mechanism offers little protection; it simply guarantees continued failure. The child himself does not perceive this paradox. Before the nonachieving child will risk establishing goals and seeking success, his learning and/or emotional problems must be resolved" (pp. 45, 46).

Definition of Underachiever

The literature is replete with vague and unrefined definitions of underachiever. Precise measures of underachievement are not available. This can be attributed to several factors. These include: (a) the complexity of the many overlapping causes and characteristics of underachievement, (b) the subjective nature of the informal identification process and the lack of agreement on the true measures of ability and performance and, (c) the lack of agreement on the precise discrepancy between ability and achievement relating to the formal methods involved in the criteria for identification of underachievers. The third factor has become an issue under particular attack by those who question the cultural bias of ability measures such as IQ or aptitude tests. These tests supposedly are objective and allegedly not dependent on irrelevant variables like teacher prejudice or social class, but they are nevertheless subject to criticism. In short, it is argued that tests

based on white middle-class socioeconomic group expectations should not be used on persons not of that group because the test puts them at an initial disadvantage and may lead to their mistakenly being classified as underachieving (Turnbull and Turnbull, 1982; Lambert, 1988).

When one considers that grades represent the child's achievement relative to his ability or compared to other children, and that they can vary with the child's teachers, the issue of performance becomes even more complex. Moreover, measures of ability are confounded by school achievement. While IQ remains relatively constant, a continuing underachievement pattern can have a depressing affect on an IQ test score (Rimm, 1985).

Definitions range from a conceptual characteristics approach (Pecaut, 1979; Kaufmann, 1981) to a quantitative approach (Rimm, 1985). From research completed on student clients ranging from 12 to 17, Pecaut (1979) defines underachievers as students who don't complete tasks with any consistency, don't work well within structured environments, such as school, and don't function well without supervisors monitoring virtually every move. In other words, they lack three essential skills related to achievement: (a) persistence to completion, (b) meeting deadlines, and (c) independent functioning.

Kaufmann (1981) provides a conceptual definition of underachievement as existing over a continuum; school underachievement and/or life underachievement. She separates differences in underachievement into two categories: contextual or behavioral in nature. In a contextual sense, underachievement can be school-related (i.e., curriculum offering conflict) or overall life time underachievement (i.e., extending after school into adult life). In contrast, a behavioral difference is described as aggressive, hostile, or withdrawn behavior.

Rimm (1984) defines underachievement as a discrepancy between the child's school performance and some index of his or her actual ability. Ability may be defined in terms of test scores or only parent or teacher observation of the child. Parent or teacher observation includes the "hunch" by someone who knows the child, that he/she could be doing much better in school than he/she is doing (p. 27).

Theories of Underachievement

Emergent theories on underachievement by authorities resulting from their practices with child and adolescent underachievers have been established (Pecaut, 1979; Kaufmann, 1981; Rimm, 1985). These theories relate to achievement patterns and characteristic which have aided in

the identification process. Kaufmann (1981) classified underachievement in terms of behavior patterns; either aggressive or withdrawn, whereas, Rimm (1985) classified underachievement characteristics into five dimensions related to competition. Similarly, Pecaut (1979), founder of The Institute for Motivational Development, pursued the emotional issues of underachievers. According to Pecaut, underachievers and their parents fall into four groups or categories:

1. Trust seekers. "Early in their lives, something interferes with these children's normal development: a divorce, perhaps an alcoholic parent. As a result they feel insecure and threatened by their outside (school) environment. They daydream or, as adolescents, they continually are falling in love" (p. 2).
2. Independence seekers. "These children often suffer from poor parent-child communication. They see that their parents value good grades, so they fail. They always seem to be working against their own best interests" (p. 12).
3. Approval seekers. "These children often are subject to regular criticism by their parents. They are so eager to please them that they choke up. When they do poorly, their parents get angry. When they do better, they get no positive feedback. This child may freeze on tests and spends excessive time cuing off the expectations of other people" (p. 3).
4. Dependence seekers. "The worse this child does in school, the more his parents sit on him. Eventually, he comes to fear that if he does well, his parents won't pay any attention to him" (p. 11).

The Institute of Motivational Development, serving over 3,000 students a year, has developed an underachievement profile as an aid in the identification process for parents and teachers. A list of twenty behaviors provide a description of what to look for in an underachieving pattern. A scale is provided as a guideline to help determine the degree of underachievement. This Underachievement Profile was used by both schools in the study as part of the identification process (Appendix A).

Kaufmann, in Rimm (1985) summarizes underachievement as having three major components: (a) generalized underachievement, which is described as underachievement in multiple academic areas, (b) long-term underachievement, which is described as a minimum of two or three year underachievement pattern and, (c) an emotional response to the underachievement. She presents two general responses to underachievement which include: (a) an aggressive, hostile response (i.e., refusal to comply with rules, request; vies for attention in a variety of ways) or (b) a withdrawal response (i.e., will attempt nothing in work or class activity).

In the Cupertino Project study (Rimm, 1985) the most common characteristics of gifted underachievers were the following: (a) school work was consistently incomplete, (b) vast gap between qualitative level of oral and written

work, (c) test phobic, poor test results, (d) profound interest in single area, (e) school phobia, poor attendance, (f) very low self-esteem, (g) sincere belief no one likes him/her, (h) an autonomous spirit, (i) inability to function constructively in any group, (j) wide range of interests, (k) tendencies to continually set goals too high, (l) no apparent satisfaction from repeated demonstration of acquired skills, and (m) not motivated by the usual devices, such as teacher enthusiasm, rewards, or group interests. Although these findings are specific to gifted underachievers, a comparison to Pecaut's (1979, 1985) generalized underachievement profile can be found in the motivational items.

Similar to Pecaut (1979), Rimm (1985) has developed an Achievement Identification Measure (AIM) for parents, which is intended to identify student underachievement characteristics. The central underlying dimension of AIM related to underachievement is learning to cope with competition. Whereas Pecaut's theory deals with emotional issues, Rimm's theory is socially oriented. Arguing that society is highly competitive, two points are essential: (a) our schools and families reflect competitive and human values, and (b) these comparisons reflect whether a child is a winner or a loser. Central to this theory is the issue of control. The other dimensions of AIM are responsibility and

self-control. Achievers are described as dependent or dominant conformers or non-conformers.

Identification of the characteristic pattern of an underachiever syndrome is a step toward a theory of assessment of the underachievement. The formal use of the AIM approach to identification was rejected for purposes of this study, as its specific design was intended for the gifted underachiever. Whereas, the Behavior Profile, used by the Institute of Motivational Development, may be applied across all types of student underachievers. However, the gifted literature contributed to the knowledge base regarding theoretical foundations of behavioral characteristics of underachievers in general.

Sources of Underachievement

Contributing factors of underachievement range from physical causes, emotional crises, family and peer relationships, the school environment, discouragement, poor study skills, and an inefficient approach to learning. Svenson (1977), in a Swedish study on the qualitative differences of learning, reported the results of examined study skills of high school students over a learning period. Detailed findings suggested that three factors contributed to achievement with regard to studying: (a) A holistic

cognitive approach was preferable to an atomistic approach (i.e., learnings were related to concepts versus memorizing parts of the text), (b) sufficient study time was essential, and (c) elaborate study techniques (i.e., oral, written, discussion) proved to be more successful than one single technique.

While psychologists and practitioners in the field of underachievement place the origins of underachievement patterns in the home, there are four common sources of underachievement according to Greene (1986):

1. Learning problems. "The child who cannot learn efficiently must function at a level below his potential. Poor reading skills, poor math skills, poor writing skills, poor concentration, poor study skills, and poor organizational skills can pose seemingly insurmountable obstacles to achievement" (p. 46). The learning disabled or low achiever is in this category.
2. Family problems. "The child who experiences dissension and stress at home will have difficulty functioning efficiently in school. The strain created by family problems is carried to the classroom and can interfere with academic achievement. Emotionally charged conflicts at home distort a child's perspective about himself or his ability" (p. 46). The child of a bitter custody divorce is in this category.
3. Emotional problems. "Children who are experiencing emotional turmoil are seldom able to work at a level commensurate with their potential. Fear, insecurity, anger, and depression divert the emotional energy required for achievement" (p. 46). The unhappy child who is in conflict with himself seldom possesses the self-esteem and self-confidence requisite to achievement.
4. Cultural influences. "Certain subcultures do not provide support systems that encourage traditional

achievement. for example, children who belong to gangs rarely achieve at the same level as children who have joined the science club or the school newspaper. Children from poverty-stricken ghettos may also lack realistic role models for traditional achievement. If they feel that it is futile to establish goals and to strived for success, they will either accept underachievement or nonachievement as their fate in life or will strive for those symbols of achievement that are realistic in their subculture" (pp. 46-47). The Chapter One child, the minority child, and the ESL child on "free lunch" are candidates for this category.

Underachievement Interventions

A review of the literature on underachievement interventions produced numerous studies. They reported strategies designed for group or individualized instruction. Group interventions included grouping within the classroom, ability grouping within subject disciplines, grade level grouping, organized support of study skills, programs aimed at disadvantaged groups of children, such as federally funded Chapter One programs, English as a Second Language programs, alternative and vocational educational programs, and teacher and parent education (Greene, 1979).

Similarly, individualized instruction included programs that fall under PL 94-142 (The Education for All Handicapped Children Act) as learning disabilities resource and center programs, tutoring support, peer tutoring programs, advisor-advisee programs, mentorship programs, and counselor

intervention programs. Of all of these, mentorships was listed as an intervention which had the portent of impacting life-time underachievement. By having a very significant person in one's life, a mentor serves as a motivation for achievement (Levinson, 1978; Webb, 1983; Torrance, 1984).

Since assessment of an underachievement program was a focus, rather than its etiology, the review of the literature concentrated on studies involving underachievers and low achievers. Although, underachievers and low achievers were terms used interchangeably in the literature, a trend emerged to describe underachievers as possessing a discrepancy between ability and academic achievement as measured by standardized tests and grades (GPA). Low achievers came to mean students failing in at least one academic course. Teacher referrals were most commonly used in the identification process (Rimm, 1985; Wilson, 1986).

Counselor Interventions With Underachieving Students

Instructional counseling for chronic underachievers has been recommended in the literature as approach to the problem of adolescent failure among students who demonstrate no significant intellectual incapacity (Martin, Max, and Martin, 1980). These authors suggest a model that uses interaction between family and school personnel for academic

skill development. The model includes counseling goals, preassessment, objectives, instructional activities, and evaluation of learning and instruction components. Instructional activities are linked with teacher-counselor meetings, family planning meetings, academic skills counseling, tutoring and individual counseling.

This general instructional counseling framework can be seen in the construction of more specific counseling interventions and programs for underachieving students. Baker (1983) presented three prevention and skill building counseling programs implemented by school counselors in an attempt to share their skills beyond the traditional counseling-on-demand role. While the emphasis in Martin (1980) was on academic skill development, the emphasis in Baker (1983) was on self-concept improvement.

In a study involving underachieving students in grades ranging from 7 to 12, students were placed in one of three different preventative and skill building counseling programs (Baker, 1983). The students in grades 7 to 9 were placed in five to ten member structured counseling groups which met for 12 sessions of 45 minutes for a period of 3 months. Twenty-eight topics were systematically presented to the groups. A post attitude measure revealed students preferred the structured approach over the traditional

counseling-on-demand. An attitude measure indicated program participants showed increases in self-concept in the cognitive restructuring groups, whereas modest gains and trends favoring dyads (teacher matched with student) were reported in the Guerney Enhancement Training of Underachievers program.

An exhaustive review of research on assessment of counselor interventions with low-achieving and underachieving elementary, middle, and high school students was reported in the literature. Wilson (1986) found a trend in changes in the counseling approaches and research designs of studies with these underachieving populations as subjects. Focusing largely on published investigations and studies using grade point average as a dependent variable, this researcher reviewed 19 investigations conducted between 1960 and 1983, of which only 8 had one experimental and one control condition.

A table described the type of study; underachievers or low achievers, participants' voluntariness, counselors, and treatment, time format and effect on GPA. Of these studies involving underachievers, three were conducted with elementary school students (grades 1-6), and ten with high school students (grades 9-12). The most frequently used criterion for identifying students as underachievers was a

discrepancy between ability and academic performance as measured by standardized tests and GPA. Whereas failure of at least one academic course and teacher referral were most commonly used in the selection of low achievers. Of the six studies involving low achievers, one was conducted with elementary school students, one with middle school students in grades 7-8, one with students in grade 8-10, and three with high school students. Treatments ranged from group counseling, individual counseling, parent counseling, structured versus unstructured approaches, study skills counseling, combination programs, and long versus short treatments. Voluntary versus nonvoluntary participation was also analyzed.

Findings suggest that group versus individual counseling may be more effective in increasing academic performance. Of the 15 studies using group counseling as an experimental condition, 7 had positive findings, whereas only 2 out of 6 interventions using individual counseling yielded positive results. One of these studies involved intermediate students using a control group. This study involved semi-involuntary low achievers and included 8 counselors using a direct individual counseling treatment, two to five 30 minute sessions over one semester.

Findings revealed a significant difference in GPA in favor of counseled students. Regarding structured versus unstructured approaches, overall directive and behavioral programs were more effective than were person-centered programs in raising GPA. Length of treatment as measured in weeks was also a relatively good predictor of success in improving GPA. Interventions lasting more than 12 weeks were more successful. Programs in which students volunteered for treatment were more successful than were programs with nonvolunteer participants. Of the four studies involving nonvoluntary participants, three were ineffective in raising GPA, whereas 7 of the 11 studies with voluntary or semivoluntary student participants showed positive results. Of the five studies that included study skills instruction, four had positive findings. The results of this review indicate that parental involvement is also a significant dimension in predicting the effectiveness of interventions with low achievers and underachievers in a school setting.

The importance of providing for follow-up evaluations was demonstrated in three investigations in which the researchers reported positive results that were not evident immediately at posttreatment. The author concluded that this comprehensive review of the literature revealed a marked decline in the number of published experimental

studies conducted with low-achieving and underachieving elementary, middle, and high school students over the last 2 1/2 decades. Of the 19 studies in this review, 12 (63%) were conducted between 1960 and 1969, 5 (26%) between 1970 and 1979, and only 2 (11%) in this decade (Wilson, 1986).

Another approach to the problem of underachievement reported in the literature involved the use of a core teacher, to whom high school students were assigned three periods a day (Fitzpatrick, 1984). In this study, one teacher was selected who would be able to deal with the students in a manner that would allow the students to get close to him yet demand respect. Twenty ninth grade students, who did not perform poorly enough to qualify for special education services, yet were not motivated enough to be successful in regular programs were assigned to a teacher for their English, geography and a flexible third subject. The teacher concentrated on improving the students' self-concept and study skills, with the goal of improvement in academic performance and motivation. Although no statistical data were reported, it was revealed in a follow-up study after 10th-grade that none of the students had dropped out of school and only three of the original 15 participants had failed the first term of 10th-grade. These findings suggest that the success they experienced in ninth grade followed them into 10th-grade.

SECTION THREE: AFFECTIVE EDUCATION INTERVENTIONS

Teacher-Advisory Programs

The assignment of students to teachers for affective development is not new. Two special concepts add up to affective education: the development of growth-producing interpersonal relationships between teacher and students, and effective utilization of that part of the school day that focuses primarily on the socio-emotional development of students. Both are important parts of the emphasis on personal development in fully functioning middle schools (George, 1982). Teacher-advisee programs generally focus on the second of the two functions as a context within which better student-teacher relationships can develop. Some broad goals of teacher-advisee groups can be placed in two categories: (a) self-knowledge and (b) groupness, or "community." Self-knowledge goals include letting students get to know each of their teachers well, helping students get to know each other exceedingly well, and helping students get to know themselves. "Groupness" goals include helping the group care about the group itself, helping the group learn to work together, helping the group learn to talk and listen together and helping the group be self-directed (Gatewood, 1975; Doda, 1976, p. 9).

Advisory programs emphasize that one of the roles of teachers is to support the learning program and personal growth of a small group (15-20) of students through warm, nurturing, individualized attention. The teacher/advisor serves not only a significant role with the students but also with the student's parents, becoming the link between home and school. A manual on how to develop a teacher-advisory program delineating the characteristics of a successful advisory program for adolescents was reported in the literature on advisement in secondary education (Moore, 1981). Components included a focus on the individual, regular meetings, teams, staff commitment, guidelines, materials, staff development, needs assessment, program implementation and evaluation.

In another study similarly described, the teacher-advisor was called a "Mentor" (Webb, 1979). This idea of teacher as mentor is presented in a study where 20 elementary children are assigned a mentor from the time they enter school to the time they leave. The mentor serves to monitor each child's academic and personal progress. Time for advisement was provided weekly in the school schedule. Findings suggest the mentorships of this nature can benefit many types of students, gifted or not.

The teacher-advisee program provides a forum for education regarding personal and interpersonal competence with an adult who is committed to helping each advisee grow stronger and more positive about himself. Typical programs have students in a homeroom for approximately 15 to 30 minutes each day. A number of activities can be devoted to self-concept building and academic improvement (Hubel, 1976; Moore, 1981; George, 1982).

A review of the state of the art on teacher-advisory models reveals that academic advice is as much a function of the teacher-advisee program as is the social and emotional growth function (Alexander and George, 1981; Daresh and Pautsch, 1983). Evaluation of the Webster Middle School teacher-advisor program indicated considerable success in helping students to understand and develop their personal needs, values, and shared social responsibilities, which has influenced the school in "humanizing" its practices (Daresh and Pautsch, 1983, p. 13). Yet, test-taking and study skills development came to be an important element of this program. They reported that the teacher advisee arrangement served as a powerful way to enable teacher and student to develop strategies for improving academic performance.

Although current research on advisory programs is sparse, the Middle School Task Force Report (1977-78)

recommended that an advisory-based grouping should begin the school day. Alexander and George (1982) reported recent research conducted by the University of Florida on the advisory program at Lincoln Middle School. In a survey, students were asked questions which examined their relationships with and perceptions of their advisor-teachers. The advisor-teachers were asked questions on the centrality of advisor programs to a middle school experience and the amount of preparation required for an effective effort.

Some of the students' responses were that they perceived their advisor-teachers as caring for them and for the other students in the group. They also thought their group helped in their understanding of other people. The students differentiated between academic and personal problems. They indicated they would turn first to their advisor for help in solving academic problems, but would seek out the guidance counselor for assistance with personal problems. They felt the advisor-advisee group provided skills for problem solving. They listed as their most important activity silent reading and study hall; while favorite activities were talking with a friend. Frequently listed as a favorite teacher was their advisor.

A few significant differences emerged when qualitative data in the form of questionnaire responses were analyzed by

race, sex, interdisciplinary team and grades. The differences reported were:

1. Blacks were more likely than Whites to believe that their advisors cared about them and other students, helped them solve problems, and understand other people.
2. Females were more likely than males to believe the advisor group helped them learn to solve problems.
3. There was no difference in response among students by grade.
4. On team differences, a majority of students felt a sense of belonging.

The significant teacher findings were an overwhelming endorsement for the advisory concept for the middle school. Likewise the universal perception was that the guidance counselor played an active role in the program (Alexander and George, 1981, p. 109).

This notion of caring is supported in a study on the relationships that exist between perceived teacher behaviors and the achievement of selected secondary students in Virginia (Lambeth, 1981). Five categories of teacher behaviors were examined; caring, respect, interpersonal contact, course organization, and learning environment. Findings revealed that the best single predictor of actual and perceived achieving was caring.

A further study of the advisor-advisee program at the Lincoln Middle School observed that students from Lincoln were more mature and easier to teach when they reached the ninth grade than were students from several other schools in the district. Only a very small portion of students believed the advisory program was of no help or value to them. A significant negative finding was the weakness reported in school survival skills. Solving problems, using time wisely and meeting deadlines were perceived as unresolved difficulties by a significant portion of students (Alexander and George, 1981).

While such studies are, overall, encouraging, there are still too few well-designed studies of these programs to permit more than modest speculation about the ultimate value of advisor-advisee programs. More research is recommended in the literature.

SECTION FOUR: MENTORING AND MENTORSHIPS

Mentor Origins

The concept and role of mentoring comes to us from ancient Greek mythology. Its origin is found in the Odyssey, when Odysseus, the King of Ithaca, appoints his trusted friend, Mentor, to watch over his son, Telemachus,

as he sets off on a ten-year journey during the Trojan War. The goddess Athena, assumed Mentor's form and accompanied Telemachus in the search for Odysseus after the war, acting as guide and offering prudent advice (Noller, 1983; Boston, 1976).

In the full treatment by Homer with regard to the role of Mentor, three points stand out: First, Mentor exercised his/her tutorial function within the context of a wider range of responsibility; i.e., the care of Odysseus' household. Second, Mentor functions as a channel for guidance and wisdom which comes from beyond him. He functions as a "spiritual guide," somewhat as a gatekeeper to a larger world beyond. What the mentor transmits is not exclusively his or her own. It is something like a tradition or value system to which he/she has access and for which he/she is willing to serve as a conduit and speaker. Third, Mentor is presented as the companion in Telemachus' quest for his father, during which he comes into his ^{own} adulthood. Thus, we come to think of a mentor as a companion to the pupil as he moves toward the responsibility of adulthood, offering encouragement, advice, and the wisdom of the adult world as the pupil is ready to take on the larger world on his/her own terms (Boston, 1976, p. 2).

Defined as a teacher or counselor, friend or consultant, critic or sponsor, coach or supporter, "guide by the side," facilitator or advisor, the mentor is perceived to serve the mentee in an enabling role (Frey and Noller, 1983). Readings from exhaustive reviews of the literature on mentoring (Noller and Frey, 1983; Alleman, Nejedlo, and Powell, 1984) show parallels in the description of the mentoring relationship and its participants, but less agreement on the precise meaning of the term, "mentor." Despite this problem, "mentoring" has captured the creative spirit of a wide range of individuals and groups.

Within the past few years, mentoring has emerged as a popular topic in several arenas. The literature on mentoring is divided into three sections; the mentoring phenomenon in adult growth and development, mentoring in the business world, and mentoring in academic settings. While the focus of the review of the literature was on the latter, the scope included the more comprehensive data base on mentoring in the corporate world and adult development as it applies to the theory and practice of mentoring in the school setting. From the business, adult and higher education literature, the following elements were gleaned: history and origins, the concept of a mentor as a role model and motivator based on current developmental theory, the complex nature of the mentorship role, and the guidelines

for developing and implementing formalized, mentor programs within an organization.

Mentoring and Adult Development

The father-like relationship between young Telemachus and the wise, loving Mentor set a standard for characterizing future mentoring relationships. History is full of examples of such relationships: Socrates and Plato, Freud and Jung, Haydn and Beethoven, and so on. From the legacy of famous mentoring relationships comes the sense of mentoring as a powerful emotional interaction between an older and younger person, a relationship in which the older member is trusted, loving and experienced in the guidance of the younger. The mentor helps to shape the development and growth of the protege or mentee (Merriam, 1983).

Several researchers of adult development have sought to describe the complex nature of the mentor relationship (Vaillant, 1977; Levinson, 1978; Roche, 1979; Daloz, 1983, 1986). Based on interviews with 40 men, Levinson and his colleagues were able to identify a number of eras in the male life cycle. Each era, lasting about 25 years, contains a series of growth periods defined by developmental tasks an individual must perform at this time in the life cycle. Levinson (1978) states that the mentor relationship is "one

of the most complex, and developmentally important a man can have in early adulthood" (p. 97). The mentor has several functions. These include: (a) a teacher to enhance intellectual development, (b) a sponsor who may influence and facilitate, (c) a host and guide, and (d) a counselor providing moral support. Levinson concludes, "The mentor has another function, and this is developmentally the most crucial one: to support and facilitate the realization of the Dream" (p. 98).

This notion was supported in a study conducted to test the theoretical premises of Levinson's theory of early adult development (McCallum, 1980). The sample for the study consisted of 137 students, age 17-25, from a private college in southwestern United States, who had identified 33 instructional mentors. Findings on each of the task-related variables involved indicated demonstrated significant differences or relationships ($p < .05$) as hypothesized from Levinson's theory of the Development of a Dream and Mentor Influence. The mentor serves as a transitional figure, as the protege evolves into being an adult with peer relations with other adults. The internalization of their "significant other" is a source of increased autonomous, responsible action. According to Levinson (1978), the mentoring relationship can last 2-10 years, reporting 2-3 years on average. Whereas Torrance (1984), in a follow up

study, found it to last 2 to 7 years, with a mean duration of 4.2 years.

The importance Levinson (1978) gives to mentoring in adult development is supported by a longitudinal study of 95 Harvard graduates (Vaillant, 1977). The results support Erikson's theory on child and adult development; specifically, that stages must be passed through sequentially and failure to master one precludes mastering subsequent stages. The men judged to be most successful had been capable of mentoring relationships in their careers and personal lives. Those men judged to be less successful had not had mentors.

In adult education, mentors serve as guides through transition, linking them somewhere between a teacher and tutor. Daloz, (1983) describes a mentor as guide, guru, parent, friend; all these to learners lucky enough to find a teacher willing to make a difference in their lives. He believes mentors have a way of appearing at a crucial time in the adult development process, offering both material and emotional aid as they point the way.

Daloz (1986) refers to mentors as "that small, growing band of practitioners who actually call themselves mentors, and who by definition are committed to making an education

of care really happen" (p. 19). He views education as "something we neither 'give' nor 'do' to our students. Rather it is a way we stand in relation to them" (p. xv). Hence, the nature of that relationship is best grasped through the metaphor of a journey in which the effective teacher serves as guide or mentor.

At the adult level, "colleges without walls" have been based upon the assignment of a student to a mentor. Particular roles and responsibilities have been assigned to the mentor who advises, counsels, evaluates and guides a student toward the achievement of the mentor's educational objectives. Even when the system is not predicated on such a relationship, the mentor often plays diverse but definable roles in education at the adult level (Frey and Noller, 1983).

Mentoring in Business

The literature is replete with articles on mentoring in the business sector. In this setting, mentoring is explored from the perspective of career development rather than adult development. Business and industry dominate the literature with special adaptations and emphases relative to identified needs. The corporate world looks to mentoring to promote success among employees, to provide assistance in advancing

within the organization, to develop potential among junior members and to assure strong leadership for the future (Frey and Noller, 1986). The business literature consists of conceptual articles and data based studies. Mentorships for women and minorities, a rare commodity in business, can be currently found in the emerging literature on mentoring.

As a teacher or an advisor, Willie (1983) relates how mentors played a strategic role in an individual's career. In his book, *Five Black Scholars*, Charles Willie examines the life and contributions of five outstanding black leaders and educators who had mentors as pivotal persons in their lives as young students at Harvard.

According to Shapiro, Haseltine, and Rowe (1978) a differentiation among the various support roles brings some clarity to the meaning of mentor in an organizational setting. Conceptually, there are five categories of a "patron system" in business ranging from peer pal to mentor. A peer pal is someone in the same level as yourself with whom you share information, strategy, and mutual support for mutual benefits. A guide can explain the system but is not usually in a position to champion a protege. A sponsor is less powerful than a patron in promoting and shaping the career of a protege. A patron is an influential person who uses his/her power to help you advance your career.

Finally, a mentor is an individual who assumes the role of both teacher and advocate in an intense paternalistic relationship.

Empirical studies of mentoring in business have looked at the importance of mentoring in terms of career development and gender. Roche (1979), who viewed the mentor relationship in less emotional terms than Levinson, surveyed 1250 top executives in 1977. He found that approximately two-thirds of the respondents had a mentor or sponsor; men more typically had mentors than women. Other findings indicated executives who had mentors made more money, were better educated, had more job satisfaction, and were more inclined to become mentors themselves. According to Roche (1979), mentors have become prevalent over the past twenty years. Roche's definition of mentoring is closer to the notion of sponsorship or helping in contrast to Levinson's definition of an intense emotional relationship.

Mentors in the sense of a sponsor or helper are more common than mentors in the classical sense. Women in business have been studied by researchers Hennig and Jardim (1977) and Phillips (1977). In both studies, women were given in-depth interviews. Findings revealed that mentors were a positive support on a primary or secondary level until age 35; primary being more personal and secondary

being more business-like. Researchers are quick to assert that it is too early to say that all women and men need career mentors.

Mentors and mentees both derive benefits from the mentorship. Melia (1980) and Kram (1980, 1983) look at the relationship from the mentor's perspective. Viewing mentoring as a power strategy, undertaken to increase the personal power of the mentor, Melia (1980) reports the most important facets of the mentor relationship becomes the trading of information and loyalty. She views the mentor system as extending to the family connection. If used effectively, this family system of mentors is powerful because it is more certain, more reliable and thicker than water. She claims that truly powerful people establish power bases throughout their lifetime.

From a study of 18 relationships between mentors and proteges within one organization, a theoretical model of mentoring was derived that discussed benefits and drawbacks for both members of the pair and the organization (Dram, 1980). In another study, Kram and Isabella (1983) interviewed 25 pairs of managers, exploring mentoring and networking relationships. The two relationships were found to share similar elements. These included: information sharing, career strategizing, feedback, confirmation,

emotional support and friendship. Additionally, peer relationships were found to be potentially more enduring.

A study describing the career development of a representative sample of women managers and executives in American business and industry is reported by Phillips (1977). Data were gathered on over 2600 individuals. Being sponsored or groomed was one of the five factors named as most helpful to career success. Ingredients of a successful relationship and ways to avoid potential problems were presented. The conclusions suggest finding and making use of the right mentor as the most crucial step taken in one's career. Reported in the literature, were recommendations for successful mentoring experiences, becoming a mentor, and developing a formalized mentoring program, which can be adapted and applied to the education setting (Phillips-Jones, 1982, 1983).

Mentoring in Academic Settings

Learning experiences are central to the mentor relationship in academic settings. Wise by virtue of age and experience, the mentor guides and cultivates the intellect of the younger learner. Educational institutions // have a variety of applications dependent upon the level and purpose to be served. An ERIC Search using mentoring and

education in either the title or the abstract for the period of 1980-1987 revealed 327 doctoral dissertations on this subject. Of these, most of the dissertations involved faculty mentorships with graduate students. What typically was described at the graduate level was the assignment of doctoral students to senior professors for advanced study and research. A mentor in this context is thus the equivalent of instructor and generally does not exert the more intense, pervasive influence of classical mentoring (Lynch, 1980; Reita, 1978; Busch, 1983; Jenkins, 1985; Skrtic, 1985). While tasks and time frames are confined in these circumstances, lasting contacts and friendships are residual benefits of this kind of mentorship. Networking, the systematic process of developing helpful contacts, linking people for assisting, supporting, and helping each other find needed resources, information, job leads, opportunities, and feedback is an outcome of mentoring in education and other helping professions (Metha, 1979; Rawlins and Rawlins, 1983; Alleman and Rawlins, 1984).

Several new groups participating in mentoring programs became evident in the literature; namely, health-related organizations and counseling professionals. The Dictionary of Occupational Titles ranks mentoring as the highest and most complex level of functioning in people-related hierarchy of skills. Research by Alleman, Cochran,

Doverspike and Newman (1984) reported that behind the mystique of mentoring lies a group of behaviors rather than a set of innate attributes characteristic of select individuals. In an empirical study, 100 individuals in 50 dyads reported independently on several aspects of their mentoring relationship with each other. Twenty-nine pairs said they had a mentoring relationship and 21 pairs with unequal rank, who worked together, did not acknowledge a mentoring relationship.

(Measurements included a personality inventory, an adjective checklist and a leadership questionnaire. Analysis of the data provided answers to six questions relating to personal traits associated with a mentor-type person. The findings demonstrated mentoring is a behavioral phenomenon not dependent upon personal traits. The difference between mentors and nonmentors was found in what they did, not who they were. ¶ The evidence presented in this study suggests that mentoring relationships can be enriched by learning or encouraging mentor-like behavior rather than selecting certain types of people. // The implications are particularly important as guidance counselors are called upon to develop formalized mentor programs (Gerstein, 1985; Zey, 1984).

Mentoring practices among administrators in higher education and public school settings have been of interest to some researchers (Moore, 1983; Krupp, 1984). Senior teaching staff serving as mentors to junior teaching staff have provided role models in some school systems (Laura and Yee, 1985). This format has many advantages, not the least of which is a means of sparking the interest of aging school personnel as their expertise is tapped (Krupp, 1985).

While mentoring takes on several forms in the education literature, the remainder of this literature search primarily focused on mentor programs involving underachievers at various levels since few programs were reported at the middle school level. Mentor programs include underachievers at the college and secondary and elementary levels. The literature includes populations that range from gifted underachievers to average underachievers and include culturally and disadvantaged underachievers.

Mentoring the Gifted and Talented

Mentoring the gifted and talented learners at the elementary and secondary school level emerged in mentor literature. Applications ranged from programs linking learners with special teachers, to suggestions for peer tutors, to involvement of community mentors who share their

particular expertise with able students. Although Torrance's (1984) longitudinal study provides a wealth of information about the influence of mentors on a creative population, a study by Kaufmann, Harrel, Milam, Woolverton and Miller (1986) reports the nature, role and influence of mentors in lives of an identified population of gifted adults.

The participants for this investigation were a representative sample of the 1964-1968 Presidential Scholars who were chosen as part of a national program to encourage and reward academic excellence in high school seniors. As part of a larger descriptive study of their educational and professional histories, 139 individuals (68 men and 71 women) responded to items pertaining to the nature and influence of mentors. Findings indicated a majority (66%) of the group reported that their most significant mentors had been teachers. Of these, most were encountered in graduate (47%) and secondary school (29%). The functions of the mentor that were most frequently described were role modeling (61%), support and encouragement (58%), and professional socialization (13%). At the time of the survey, 28% of the mentorships were intact. A change in location by either the mentor or mentee accounted for 81% of the mentorships that had been terminated. No statistically significant relationships were found between sex variables.

Although this study did not provide a comparative study between those who had mentors and those who did not, a study by Torrance (1984), analyzed what damages may occur when a person was mentorless. In a longitudinal study between 1958 and 1964, 400 subjects were originally given a battery of tests on creative thinking. Follow-up data of adolescent and adult creative behavior were obtained from 220 of the original 400 subjects. In the longitudinal study, 10 questions were asked about the subjects' mentor experiences. Findings suggested the presence or absence of a mentor made a difference that could not be explained by chance. (Mentors were found to make a difference in the creative achievements and educational attainments of mentees (Torrance, 1984).)

Mentorships for the gifted can be as simple as matching of a specific interest of a students in the classroom with a community resource wherein mentorship candidates select the fields they wish to pursue and are paired with adults from neighboring communities who have agreed to work with students. Conversely, mentorships can be as complex and multidimensional as linking a number of students with a community network around many interests. These formalized relationships are called community mentor programs.

Several community mentor models involving gifted students were reported in the literature (Digenakis and

Miller, 1979; Hart, 1980; Sweet, 1980; Hamilton, 1980; Purcell, 1981; Millar and Rood, 1983). Some studies involved school and business partnerships with the goal of tapping a future labor force (Sweet, 1980; Purcell, 1981). Others provided job shadowing experiences to gifted junior and senior high school students (Borman and Colson, 1978). Several studies reported community mentor programs at the elementary school level (Digenakis and Miller, 1979; Bridges, 1980). These programs differed in grade level targeted students and in duration of the study. In Bridges (1980) 20 fifth and sixth grade GT students were matched with community mentors of similar interests. Projects were planned and completed in a two month time period. At program conclusion, a mentor/mentee questionnaire was administered. The results were reported favorably. However, some problems were identified. These included scheduling problems and the need for further knowledge on mentoring by mentors. In contrast, Digenakis and Miller (1979) studied mentorship involving third and fifth grade Gifted and Talented students. These mentorships existed solely for the purpose of career exploration and as a learning tool to study in-depth occupations.

A successful program involving approximately 26 elementary gifted children who were provided contacts with aspiring local people called mentors was reported (Millar

and Rood, 1983). Targeted students were either identified as gifted and talented or referred by classroom teachers. Treatment included parents, mentors, and students working together to provide new experiences in learning that would carry the students into new fields. An afterschool parent Mentor Club was formed as a built-in mentor bank for these participants. Assessment and evaluation in this study included questionnaires and student interviews. Positive, favorable comments from the data were reported. The unfavorable comments centered around the fast-paced activities and the expressed fear of students' feelings of elitism. Questionnaire respondents wanted all facets of the program continued. The overall feeling that it encouraged individual students to recognize their interests and develop creativity was indicated. Unfortunately, no hard data was reported.

Community mentoring experiences can be found at the intermediate level in the literature (Hart, 1980; Hamilton, 1980; Booth, 1980). Booth (1980) described special mentor programs for 7th and 8th grade gifted children, which involved a completed project and carefully structured logs and schedules for one semester. Hamilton (1980) combined the school and community for two semesters. The first semester included one hour per week group sessions in which students were provided experiences in problem solving and

logical thinking. The second semester consisted of students pursuing concentrated interests. They were placed with a mentor in the school or from the community. Qualitative results were favorable in both studies. Evaluation included mentor, teacher, and mentee.

A mentor brokerage service, operating out of Cornell University, served junior and senior high students, some of whom were potential drop-out students (Hamilton, 1980). In this study, mentor and apprentice were expected to give an expanded view of themselves through a learning experience in which the apprentice was matched with an adult who had the skill the student wished to learn. The program contained three major aspects: intake, placement, and termination. Flexible scheduling was crucial and it purposely contained no failure component. Qualitative evaluation was reported favorable.

Research using mentors from primarily within the school was reported in the literature on mentor programs in public schools (Smith, 1962; Crockett, 1977; Beard and Densem, 1986). In an early study on mentorships, faculty members serving as mentors were matched with a high school students' intellectual pursuits (Smith, 1962). The role of the mentor was in providing guidance throughout the period of study, offering criticism, judicious advice, occasional praise and

sympathetic understanding. The mentor was expected to guide without leading and be competent in the subject matter involved. Similarly, in Crockett (1977) high school students were assigned to a Mentor Project, which included mentor-teachers who advised students in their specialty subjects focusing on special learning units and learning experiences. The only data reported was the high (94%) attendance rate at mentor/mentee sessions.

A more current mentor program found in the literature was one based in the Education Department of the University of Canterbury, New Zealand. The Learning Activity Mentor Programme (LAMP) provides an advisory service where use of mentors play an important part (Beard and Densem, 1986). This study involved able students with poor self-concepts. The sample consisted of fifteen "at risk" students, ages thirteen and fourteen years old, who were selected to participate in the program by a specific set of criteria. In this study, student interviews, formal assessments, and questionnaires were administered to program participants. The length of the program was a minimum of one year. Treatment involved implementation of a motivating mentor-assisted learning unit, which varied in length from 4 weeks to 18 months depending on the mutual agreement of student and mentor.

The program follows a theory proposed by Robert Merton called the "Matthew effect," which says "those who are initially successful have greater opportunities for future success." The notion here is that success raises students' self-concepts, and the expectations of others involved can set in train a cumulative advantage (p. 113). The role of the school counselor in this program was important in clarifying and responding to the cognitive and affective needs of the participants. He/she acts as a confidante, an intermediary and a facilitator on behalf of students, teachers and parents. In a supportive role, the counselor and the program coordinator developed close student relationships particularly in situations where there was little "home-room" organization in the school.

Evaluation included pre and post program mentor and student self assessments, specific project evaluation and post evaluation by parents. While no hard data were reported, the results appeared to be positive. One goal of the program designers was to reduce constraints by not demanding compliance in evaluation, thereby providing schools and mentors adequate flexibility and some control over response to needs of students.

Studies using preservice teachers and university students as mentors to secondary, middle, an elementary

students were also reported in the literature (Kley, 1980; Gray, 1983; Harris, 1984; Silrun, 1986). Kley (1980) found that college students function well as mentors. In this study, twenty junior high school GT students were mentored by either college students, non-practicing teachers, and other community professionals. In Gray (1983), the focus was on advanced learning. These mentorships were called Mentor-Assisted Enrichment Program (MAEP) and included The Mentor Connection and the New York Mentor Program provided support to the teachers and student participants without participation grades. Both programs reported positive qualitative evaluations.

A distinction between the concept of tutoring and the concept of mentoring was drawn in the study by Gray (1983). Whereas tutors functioned to remedy diagnosed learning deficits and to overcome individual weaknesses, mentors functioned to build on student's strengths, challenging them to use higher level thinking skills. The intermediate school MAEP program contained a strong ESL component. Authors of this study reported six major benefits as outcomes of this program. They included: (a) self-concept growth, (b) follow through on projects, (c) enabling, (d) development of oral language facility, (e) real-life opportunities, and (f) development of preservice teacher skills. For all three studies, evaluation data in the form

of surveys and interviews indicated the programs to be immensely successful. Again, no hard data were reported.

A descriptive case study by Boston (1976) provides excellent insight and guidance in developing the framework for a formalized mentor model for the gifted and talented. He summarizes that the mentor-pupil relationship in the education of gifted children is akin to the sorcerer and apprentice, adding that it is rooted in experiential learning with careful matching of mentor and student. What emerges from this study as essential to the success of the mentor/student relationship includes: (a) the referencing of both to the tradition, (b) the anchoring of the pupil's learning in experience, and (c) the nature of openendedness with regard to time and space. The study serves as a resource for creating mentor program models. Based upon a historic tradition of a mentor model, it offers suggestions for guidelines outlining expectations for mentors and students and raises implications about the selection process for mentor programs.

With few exceptions (Torrance, 1984; Kaufmann, Harrel, Milam, Woolverton, and Miller, 1986) the literature on assessment of mentor programs for the gifted elementary and secondary students is sparse and lacks quantitative evaluation. Furthermore, studies involving qualitative

evaluations make suggestions and recommendations for better, well-designed studies to establish efficacy for such programs involving mentorships.

Mentoring Underachieving High-Risk Students

No distinct line of research can be traced to assessment of mentoring programs for underachievers. Rather, a look at the literature on assessment of tutoring relationships with underachieving students was explored. However, an exhaustive mentoring literature search revealed emerging research reported at the college level and only a few studies reported at the secondary, intermediate and elementary levels of public school education. At the college level a number of researchers (Haring-Hidore, 1986; Obler, Francis, Wishengrad, 1977; Oestereicher, 1985) have reported programs at higher education institutions that employ the "open-door" admission practices. These studies offered tremendous insights into the superiority of models and treatments for underachieving students at the college level. Two well-designed studies were presented.

In a six year longitudinal study at City University of New York, disadvantaged freshman students who had limited academic preparation in high school were studied as to effectiveness of overcoming students' academic, personal and

adjustment difficulties in college (Obler, Francis, Wishengrad, 1977). The targeted population of students came from predominantly low-income minority families in the New York City area. The experimentally accessible population were the newly admitted high school graduates. The experimental program design was created to address the "revolving door" system where students go in and out with little change in their academic abilities. The method of treatment to offset this deficiency was a small college program known as Teacher-Mentor-Counselor (TMC).

For each of the six years, 150 lower functioning students were admitted into the program as experimental students and 150 students having similar education backgrounds as controls. These students received the same services as the experimental group, but staff had little or no communication with each other. The experimental faculty was trained to offer specialized counseling, tutorial and personal services in addition to their instruction function. Students and staff were divided into self-contained units. Staff met with the experimenter weekly to monitor student academic performance and formulate plans for intervention to handle special problems.

The most characteristic feature of the TMC program was the built-in structure that encouraged constant interaction

between students, instructors, counselors and remedial staff. Under this structure, students were monitored on a daily basis. The contact ratio between student and instructors averaged six meetings per week. The ratio between student and counselor averaged two meetings per week and between remedial staff and students, three times per week. This type of monitoring is rarely reported in literature.

It was hypothesized that the TMC model would reduce the failure rate through the integration of functions. Tables reported the results separating populations by school year. Data analysis included: (a) retention ratio, (b) number of credits completed during freshman and sophomore years and (c) grade deviation (positive or negative GPA). Statistics were reported for number of credits completed. The findings for the 1970 population indicated mean differences for the experimentals and controls were significant at the .001 level for credits completed. For the 1971 population, the mean differences for controls and experimental was significant on at least the .05 level. For the 1972-1973 populations, the differences for controls and experimental were significant at the .0001 level. For these groups, a five-term comparison of experimental and control group populations in changes of mean grade point average, revealed the experimental population succeeded in maintaining a

higher grade point index during their freshman year as compared to their control counterparts. However, during the third term, they fell below the controls, picking up again during term five. Several explanations were offered for the fluctuation in GPA.

The 1974-75 population data were similar. Additionally, a survey was conducted to evaluate counselor/student and faculty/student relationships. Pre-post measures were administered. In both of the subjective evaluations, students and faculty reported that the experience of integrating services led to a more successful adaptation for students in the experimental group than their control counterparts. Student frustration and the repetition of the high school failure experience in college were largely eliminated in this group. In summary, integration of services appeared to be a more successful model for educating freshmen students who are academically deprived than separate, attached, counseling services.

In a similar study by Oestereicher (1985), low income students at Brooklyn College in New York, were admitted regardless of their high school grades. Counseling, tutoring and remediation were provided under Project Seek. A major goal of this study was to learn more about the needs of these students for tutoring/mentoring both in

developmental freshman coursework and in their core curriculum coursework. The experimental design included twelve classes of students which included Seek students. Random assignment of half of the classes to experimental status and half to control status, yielded six experimental classes with an assigned mentor and six control classes without a mentor. The mentors' primary responsibilities were to encourage the participation of students and to be available as role models and homework helpers for approximately 5 hours per week.

Student performance and attitudes were compared using pre and post assessments. Scores were obtained from the Brown/Holtzman Survey of Study Habits and Attitudes, on the Daly/Miller Checklist on Student Writing Apprehension; and questionnaires were completed on needs perceptions. Data collection consisted of attendance, final exam scores, course grades, and pre and post writing samples. In addition, the instructors were administered an evaluation questionnaire.

Outcomes were based upon preliminary findings on those students for whom full sets of both pre and post data were collected and tabulated. The researcher reported a slight deterioration in study habits and attitudes of struggling Seek students from the start to the end of a difficult

course, regardless of whether they were experimental or control students. A small improvement in attitudes toward writing for the experimental students was reported. Regarding the experimental students on perceptions of their benefits from the mentoring, 95% said they would recommend mentoring to others, and 93% said they would like to see their mentor after the course ended. Students gave high scores to having a mentor in their class as a role model. No statistical data were reported. While no attempt was made to present the responses to the open-ended questions, the author reported that they were extremely positive and that a dominant reoccurring theme was the student's perception that somebody cared.

Designing Formalized Mentor Programs ←

Several authors have reported well-designed formal mentor programs in the schools (Boston, 1976; Haring-Hidore, 1986). In Haring-Hidore (1986), suggestions for successful planning and implementing mentoring programs are outlined under three topics: planning, implementation and commitment. Careful planning before the program is implemented includes the following elements: (a) mentoring as a part of a larger retention program, (b) establishing clear goals and communicating them, (c) defining a cycle, (d) establishing a monitoring system, (e) developing an

evaluation component, and (f) careful selection of program participants. Training and activities during implementation include the following elements: (a) orientation, (b) activities, and (c) interaction. The need for substantial and continuing commitment includes: (a) program support administratively and financially from all levels, (b) commitments by mentors, and (c) commitments by mentees.

Strategies for effective mentoring have been reported in the literature. Noller (1982, p. 24-37) lists essential categories of strategies. These categories include:

1. Positive Attitude. Encourage the mentee to approach life and goals with enthusiasm and to be accepting of self and others.
2. Valuing. Encourage a person to examine beliefs and ideals in an effort to establish personal values and goals.
3. Open-mindedness. Encourage a person to keep an open mind to ideas.
4. Interrelations. The interaction between mentor and mentee would be situations of sharing, caring and empathizing.
5. Creative Problem Solving. Encourage the mentee to use a creative problem-solving process.
6. Effective Communication. Encourage a person to be an attentive listener and an assertive questioner.
7. Discovery. Encourage the mentee to be an independent thinker.
8. Strengths and Uniqueness. Encourage a person to recognize individual strengths and uniqueness and to build upon them.

9. Confidence. Assist a person in developing self-confidence.
10. Awareness. Stress that an individual be aware of the environment, be intuitive, be problem-sensitive, and be ready to make the most of opportunities.
11. Risk-taking. Encourage a person to be a risk-taker and to be an active participant, not a spectator.
12. Flexibility. Share with a mentee the importance of being flexible and adaptable in attitudes and actions, looking for alternatives and seeing situations/persons from different perspectives.

Although Noller and Frey (1983) caution that even a careful design of a mentoring relationship does not always assure a positive outcome, Haring-Hidore (1986) argue that a carefully planned experience that has appropriate training and activities and enjoys commitment from administration, mentors and mentees increases the potential for success.

The function of mentors as role models is supported in the literature (Claman, 1979; Merriam, 1983; Torrance, 1984; Cooper, 1985). While Cooper (1985) contends that mentors can serve black youth in many ways and advocates black role models for black mentees, Torrance (1984) found that sex of the mentor was less important than the mentor's characteristics. In a longitudinal study on mentor relationships, 84% of the subjects said they had adopted some of their mentor's characteristics. Although more males were mentors to both sexes, opposite sex mentors served as

influential role models. This finding is consistent with the mentoring research in business. Viewed from another perspective, Claman (1979) found the mentor role of adult with an adolescent to be beneficial in building a relationship of mutual trust and respect. Through a case study, his findings suggest that teachers should work at being mentors. In that role, students are assisted by adults to more readily accept adult prerogatives, to avoid confrontation, and to develop independence and constructive action. The implications of this are thought-provoking.

SECTION FIVE: A ONE ON ONE RELATIONSHIP WITH UNDERACHIEVERS

→ It appears, as an ancillary outcome, that mentoring tends to benefit the mentor. All six mentors in the previous study (Torrance, 1984) felt that the experience influenced them to plan careers in a helping profession. By helping others, these mentors felt the experience helped them develop and improve their own skills. A comparable outcome was reported in the literature on similar experiences by tutors (Smith, 1975; Land, 1984). Tutoring programs also have positive effects on children who serve as tutors. In a review of peer tutoring programs that measured self-concept and student achievement, Land (1984) found that while most programs have been designed to help the tutee,

studies suggest that, in some cases, the tutor may be receiving the greater benefits.

Tutoring

In a synthesis of research on educational effects of tutoring, Cohen (1981, 1982) found that while tutees showed greater cognitive and attitudinal gains than did students who were not involved in such programs, tutoring programs had a smaller effect on the self-concept of children. Assessment studies involving the use of community volunteers as tutors were reported (Banta, 1980; Huggins, 1980; Adams, 1983; Holmes, 1985). Of these studies, the evaluation of the Chapter I HOSTS Program, "Helping One Student to Succeed," reported positive cognitive findings (Holmes, 1985), whereas the study by Banta (1980) reported positive affective results. In the HOSTS program in the Portland, Oregon Public Schools, a Retired Teacher Tutoring Project component was added, combining the HOSTS tutoring methods and materials in hopes that the added intervention would increase reading achievement gains for elementary and secondary low achieving students. The 1984-85 results showed the gains to exceed the better than average gains of tutoring during the previous year. The use of retired teachers as tutors to low achievers was reported to be a highly effective intervention.

In an evaluation study involving two elementary schools in the Lenoir City (Tennessee) school system, fourteen volunteers, including 12 retirees tutored fourth and seventh graders in reading. The volunteer tutoring program was called the Retirement Power in Education Project (RPIE). Findings indicated that while the tutoring did not produce significant differences between tutored and nontutored students in reading achievement, the one-to-one relationship with an adult role model was found to have a favorable impact on student self-concept, especially at the fourth grade level. A study by Huggins (1980), described a successful after-school tutoring program that involved teachers, students, and parents as tutors to elementary and secondary students. Findings reported higher scores in the cognitive area on both minimum-competency tests and achievement tests of student participants.

Researchers, recognizing the popular form of peer tutoring and cross-age tutoring programs for purposes of increased learning, are quick to point out the effects of increased socialization and the development of a positive self-image of those involved in peer tutorships (Cohen, 1981, 1982, 1983; Eisenberg, 1982, 1983; Land, 1984). A meta-analysis of findings from 65 independent evaluations of school tutoring programs showed that these programs have positive effects on the academic performance and attitudes

of both tutees and their student tutors. Tutored students outperformed control students on examinations and developed positive attitudes toward the subject matter covered (Cohen, 1982).

Tutoring Minority and Socially Disadvantaged Students

A review of the literature involving assessment of tutoring interventions with minority students and socially disadvantaged students produced a few good studies (Eisenberg, 1982, 1983; Wright, 1982; Valenzuela-Smith, 1983). Whereas Eisenberg (1982-83) measured solely affective changes in the motivation and self-confidence of disadvantaged tutored children in Israel, Valenzuela-Smith (1982-83) sought to determine whether a tutoring program would change minority students' school achievement, school-related behaviors, and self-esteem positively. Moreover, Wright (1982) sought to prepare and motivate students toward college.

In the Israel study (Eisenberg, 1983), the affective measure included the administration of the Tennessee Self Concept Scale to experimental (tutored) and control groups (nontutored) of elementary and secondary students. Pre-test/post-test results over a two year study indicated that

tutored children performed better on school-related variables than non-tutored students.

In an evaluation study (Valenzuela-Smith, 1983) on the effectiveness of an experimental tutoring program for 22 Latino junior high students in Antelope Valley, California, the tutorial system was based on personal analysis of the students' learning problems: cognitive, cultural, social, and emotional. Students were tutored by college students proficient in Spanish and familiar with Latino culture. They served as companions and role-models of achievement. Assessment revealed no measurable improvement in reading achievement, but informal conversations showed oral English improvement. However, all of their report cards were marked higher by their teachers. Students showed no measurable self concept gains or improvement in attendance. However, a significant correlation between self-concept scores and teacher's behavioral ratings suggested that the less frequently students evidenced inappropriate behaviors, and the more they improved in this respect, the higher their self-concept became. Journals kept by the students indicated much improvement in self-esteem and positive attitude. All 22 students planned to attend college rather than dropping out of high school.

An evaluation report (Wright, 1982) that covered the Med-Cor program, a tutorial program designed to improve the maturation, interest, and academic skills level of predominantly Hispanic, Black, Asian and other non-anglo junior and senior high school students in the Los Angeles Unified School District had similar results. Students were tutored by University of Southern California School of Medicine students with the expectation that their academic skills would increase to the extent that they would qualify for acceptance by colleges and/or university health professional schools. The three specific goals embraced by Med-Cor included: (a) to improve self-esteem, (b) to improve levels of academic achievement, and (c) to obtain access to postgraduate education and employment opportunities. Findings suggested that self-esteem and academic achievement improved and that the program met its major goal of helping students become qualified and accepted by colleges and/or university health professional schools.

Tutoring/Mentoring

A descriptive study that recognizes the tutoring/mentoring relationship and its application in addressing failure in the high school was reported by Turkel and Abramson (1986). The underlying assumption in this study is that, "mentoring recognizes that for potential drop-outs,

academic progress is more likely to take place when it is fused to a positive self-concept" (p. 68). By providing City University students as tutor/mentors to underachieving high school students, they serve as peer/adult role models. Through the academic tutoring/mentoring process, these mentors help students to deal with and overcome some of their academic, school-related, social, and personal problems. This approach goes beyond tutoring, as it includes both the student's academic and affective responses to his/her educational environment.

The population in the study were sixteen ninth grade potential drop-outs in New York City. As part of a major collaborative effort for school improvement between the City University of New York and the New York City Board of Education, the peer tutoring/mentoring pilot program was developed. The mentors, who were university education majors, assisted students by providing college role models who offered advice, a personal relationship, and academic skill development. Mentees were supervised by the high school coordinator who was responsible for recruitment of the mentees, the daily administration of the program, and providing their necessary guidance. The university coordinator recruited and selected mentors, provided weekly supervision and incorporated the work of the mentors into college course assignments. The university and the high

school coordinators matched the mentors and mentees, monitored their progress and, when necessary, reassigned students to mentor/mentee pairs. The treatment lasted 2 1/2 months. Mentor/mentee pairs met at various times: study hall, lunch, after school, and/or Saturdays. The mean session duration was 60 minutes. Overall, there were 6.5 meetings for each of the sixteen mentor/mentee pairs. While the design included a comparison group, no attempt was made to describe its characteristics.

Program measurement included three major variables; attitude toward school, attendance, and grade point average. To examine the mentee's attitude towards school, the Quality of School Life Scale (QSL) was administered on a pre-post basis to the mentee group. For the ten mentees who completed both scales, there was a significant difference at the .05 level, indicating that the mentees had a more positive attitude toward school at the end of their mentoring experience than prior to it. On a pre/post ten item Likert type questionnaire, mentors rated their perceptions of mentee's attitude and abilities. The mentors rated the mentees significantly higher at the end of the program on both their attitude and abilities.

Attendance data and GPA data for the spring semester were obtained for the mentee group and for a comparison

group of ninth-grade potential drop-outs who were not being mentored but who were receiving the same school guidance and instruction. The mentored group had better attendance, but the difference was not significant. GPA comparison data revealed nonsignificant differences in favor of the group of students in the program. All data tended to indicate more positive outcomes for the mentored group than for their non-mentored peers. While the growth in GPA between groups was not significant, the growth within the groups was at the .01 level of confidence, without the inclusion of the chronic truants. These findings lend support to the concept of tutoring/mentoring as an important addition to the high school's efforts at dropout prevention. Future controlled studies are suggested and future efforts at examining the effects of the mentoring experience on the mentors as well as the longitudinal effects on the mentees were recommended (Turkel and Abramson, 1986).

SUMMARY AND CONCLUSION

The literature on self-concept and achievement variables established a strong relationship between self-concept of ability and achievement in adolescents. How a student views himself as a learner is further enhanced by teacher interaction. In studies on underachievement, the literature show that success begets success and, conversely,

failure can be a debilitating factor in a child's future educational life. While numerous theories, sources, and forms of underachievement exist, a consensus is emerging regarding the definition of underachievement and the importance of intervention to underachievers. There appears to be some agreement on the performance description of an underachiever; namely, a discrepancy exists between the student's school performance and some index of his or her actual ability. There appears to be some agreement on the need for an intervention in the form of a one-on-one relationship.

Research supported forums for affective education that address personal and academic growth, such as teacher advisory programs, tutoring programs or mentoring programs. The teacher-advisory literature demonstrated the importance of child-centered teachers who support the learning and personal growth of students through warm, nurturing, individualized attention and who provide the link between the school and home. However, while such studies were, overall, encouraging, there were still too few well-designed empirical studies of these programs to permit more than modest speculation about the ultimate value of advisor-advisee programs. More research was recommended in the literature.

The research on mentoring supports the notion of caring in the definition of a mentor and that of a guide in terms of outcomes for the mentee. If we accept as one fundamental goal of schools to provide self-concept development to underachievers so they can view themselves as learners, then mentoring becomes an affective process that ultimately brings about cognitive outcomes. With few exceptions, studies involving mentorships with students lacked quantitative evaluation. Assessment consisted of post program questionnaires and surveys. Several well-designed mentorship studies involving students at risk appeared in the college and secondary levels, which included self-concept and academic achievement measures. A synthesis of the literature involving counselor intervention programs with underachievers produced assessment studies involving academic achievement measures, specifically grade point average (GPA). Similarly, the tutoring literature contributed to the empirical design regarding assessment of a one-to-one relationship on self-concept and achievement variables, particularly in those studies where the tutor functioned in the role of a mentor. All three bodies of literature; teacher-advisory, tutoring, and mentoring recommended assessment studies with empirical designs that included an experimental and control group.

Students need involvement with educators who are warm and personal and who will work with their behavior in the present. They need teachers who care and who will encourage them to want to learn. A line of research suggests that a mentor's greatest contribution lies in affective areas of the total human experience, rather than in cognitive/academic areas. Longitudinal research documented that mentorships encouraged long-term relationships, helped students become more aware of "mentors" in their lives and planted the seeds for students to become a mentor to someone in the future. The emphasis on leading the student to values, life style, motivation and interests, could serve to help a child commit herself/himself to success over failure. When we think of life-long underachievement, the importance of establishing a mentor relationship early on in life may be the basis for establishing a successful mentorship later on in life that could aid in the transition to adulthood and successful careers.

While mentoring programs hold promise as drop-out prevention activities and college retention interventions, a literature search of the secondary, middle and elementary education levels revealed few mentoring studies reported. Moreover, assessment studies were even more scarce. What did emerge was an increasing number of articles discussing one aspect or another of the mentoring concept. Mentoring

has captured the imagination of a wide range of individuals and groups from business, social services, and adult education, to education of the young. The readings are parallel in the description of the mentoring relationship and its participants. While mentoring has often resulted from an informal liaison, it has more recently resulted from a formal, planned or assigned linkage.

A comparison of Purkey's and Glasser's views demonstrate essentially that they are saying the same thing; that a successful learner is one that accepts himself or herself as a capable human being, worthy of the esteem and devotion of those with whom he or she comes in contact. A successful mentor can build this supportive self-concept, this successful identity, by providing the kind of nurturance and encouragement essential to enhance educational opportunity. The attention, information and support can extend and expand the learning opportunities for students. While there exists no distinct line of research on mentoring, the literature on underachievement, self concept and achievement, tutoring, and teacher-advisory suggest the mentor-mentee relationship has tremendous application to the elementary, middle and secondary school setting. Evaluative studies document, not only the value perceived by the learner, but the satisfaction sensed by the mentor.

CHAPTER THREE - RESEARCH DESIGN AND METHODOLOGIES

INTRODUCTION

This chapter sets forth the major aspects of the research design and provides the rationale for this investigation. Described are the research methodologies, design of the study, the population and sample, treatment, instrumentation, data collection and data techniques. A theoretical basis for the study was presented in Chapter One. The literature and research supporting this line of inquiry were presented in Chapter Two. In Chapter Three, the practical basis for the design of the study is presented.

RESEARCH METHODOLOGIES

There is a growing demand for measurable outcomes in terms of student achievement as experienced by educators in the field. The pressure to establish program efficacy has forced educators to effect program evaluation at the building level (Weber, 1986). This researcher, serving as program manager, in cooperation with the school principal and guidance director, planned evaluation components for the 1985-86 Pilot program. They included: (a) A comparison of

quarterly grade distribution data, (b) A comparison of pre (First Quarter) and post (Final Grade Report) program Grade Point Averages, (c) A comparison of pre and post raw score data for mentees on the Self-Concept and Motivation Inventory (SCAMIN), developed by Milchus, Farrah, and Reitz, (1968). This instrument was used to measure group data, not individual progress (Appendix C). Additionally, the 1985-86 school failure rate was compared to the 1984-85 school failure rate (Appendix B). Qualitative data collection included post program student, mentor and parent Mentor Program evaluations (Appendix B).

Qualitative and quantitative program evaluation of the 1985-86 Pilot Program (N=80) resulted in positive outcomes. There was an improvement in the final grade distribution, final GPA and post SCAMIN scores. Attendance remained relatively stable. The principal attributed the reduction in the end of school failure rate to the impact of the mentor program on underachievers. Reported in his School Improvement Report to the Superintendent, he wrote, "Glasgow's Mentor Program significantly impacted upon overall improvement in the grades of all underachievers.." "Also, fewer students failed in June 1986, compared to June 1985" (Johnson, 1986).

It was a combined curiosity and interest in these measurable outcomes that led this researcher to attempt an empirical assessment of a mentor program for underachievers. Several questions plagued this researcher. Just how significant were these results? Would these students make these gains under normal conditions? The qualitative data from the students, mentors and parents evaluations revealed positive implications for program continuance.

The important question still remained: Could these evaluation components, or a portion thereof, be subjected to the rigors of empirical testing? The answer to this question was of particular interest to this researcher for practical and theoretical reasons. First, this researcher was responding to numerous requests for county inservices and school consultations on how to develop and assess mentor programs. Secondly, it was necessary to establish measurable outcomes of a mentor model. The latter forms the theoretical basis for the study. This line of inquiry, supported by the review of the literature, led this researcher to design an empirical study that would employ statistical techniques for hypotheses testing at the .05 level of significance.

This shifted the emphasis from program evaluation, the purpose of which is to discover worth, to educational

research, the purpose of which is to discover truth (Hood, 1985). While the program at the experimental school appeared worthwhile and would be continued a second year, more knowledge was needed to establish program efficacy and to generalize to other situations.

DESIGN OF THE STUDY

For the reasons set forth above, this researcher chose, as primary, an experimental design employing empirical methods of hypotheses testing over a descriptive study. Secondary additional qualitative research methodology was chosen to supplement this design. This approach relied on ethnographic techniques such as pre and post teacher ratings of student self-concept (experimental school), mentor evaluations (experimental school), in-depth interviews with the following persons: the experimental school principal, Dr. William Johnson; the experimental school director of guidance, Patrick Hickey; the author of the SCAMIN, Dr. Norman Milchus; and the guidance director of another intermediate school that replicated the Glasgow model, Janice Stoodley, who shared her mentor program data collection with this researcher. The two-year mentee data from the experimental school, Glasgow Intermediate, was used as part of the descriptive summary as well. The quantitative data, keyed to the major hypotheses, are

reported in Chapters Four and Five. The qualitative, descriptive, summary data are reported in Chapters Four and Five in separate sections.

The design for this study is called the Nonequivalent Control Group Design. It is one of the most widespread experimental designs in educational research. It involves an experimental and control group both given a pretest and a posttest, but in which the control group and the experimental group do not have pre-experimental sampling equivalence. This is a quasi-experimental design for research. Its paradigm is symbolized by Stanley and Campbell (1963) as $\frac{O \quad X \quad O}{O}$. The design is similar to the Pretest-Posttest Control Group Design except that subjects in the Nonequivalent Control Group Design are not assigned randomly from a common population to the experimental and control groups (Huck, Cormier and Bounds, 1974).

POPULATION AND SAMPLE

Demographic Data And Trends

This study was conducted in two intermediate schools in the Fairfax County Public Schools, located in Northern Virginia, approximately thirteen miles from the Nation's Capital. Fairfax County, a suburb of Washington, D.C., had

approximately seven thousand teachers. Other demographic data reported the average household income to be \$51,000 and the average home value was \$150,000. Seventy percent of the homes were owned rather than rented. Residents included 6.3% black and 5.8% other minorities. The student minority population, 21.6%, however, was reported to be considerably higher than the number of minority residents. Teachers in Fairfax County must work with an increasingly diverse student population with different educational needs, as the demographic differences among the four geographic areas of the school system change.

ACCESSIBLE AND TARGET POPULATION

The population for this study was 1986-1987 Fairfax County Public School students. The target population were all underachievers and the experimentally accessible population of underachievers were seventh and eighth grade students from two intermediate schools in Area II Division: Ellen Glasgow Intermediate and Luther Jackson Intermediate, recommended by the Office of Research and Evaluation as comparable schools (W. Griffith, personal communication, July 26, 1986). Both these schools contain students from the same phenomenical background.

The experimental group was determined to be at Ellen Glasgow Intermediate School and the control group was at Luther Jackson Intermediate School. Both of these schools were in Area II, a division of Fairfax County Schools which comprises the south eastern portion of the county. Moreover, both schools were identified as "special needs" schools. The four factors considered in determining whether or not a school was considered a "special needs" school were:

1. Minority Enrollment,
2. Student Mobility,
3. Socioeconomic Status, and
4. Variability in Student Achievement (Fairfax County Public Schools, May 27, 1987, p. 1).

All of the intermediate schools, to some extent, have special needs. However, eight intermediate schools were identified as being more heavily impacted by these factors than others. For the 1986-87 school year, Glasgow ranked number one and Jackson ranked number seven (Appendix B).

During the 1986-87 school year, the experimental school, Ellen Glasgow Intermediate, served a student population of approximately eight hundred fifty pupils. The faculty consisted of sixty-four teachers, four administrators, and three counselors. Approximately one

hundred thirty students were on the D,F list at interim time of the first Fall grading period. This list, generated from interim reports recorded in the guidance department, reported those students awarded a D or an F in one or more academic subjects. School records secured by the school's guidance director revealed this was typical of previous years (P. Hickey, personal communication, June 22, 1986).

The control school, Luther Jackson Intermediate, served a student population of approximately six hundred eighty students. The educational staff consisted of forty-six teachers, four administrators, and three counselors. Approximately one hundred eighty students were on the D,F list at interim time of the first Fall grading period in academic subjects.

The underachieving population at both schools was identified through the use of the D,F lists and by applying specific criteria (see Definitions Section, Chapter One). Following the identification process, counselors met with potential student participants to explain the goals and purpose of the program. Permission slips were sent home with an explanation of the program to parents. Applicants and parents attended Mentor Program orientations. Counselors were responsible for collecting the signed permission to participate forms.

SAMPLING AND SAMPLE DESCRIPTION

The original sample of identified, volunteer students for the experimental group at Glasgow was one hundred mentees, assigned to fifty-four mentors. Twenty-four mentees were second year mentor program student participants (mentees continuing from the 1985-86 Pilot Program). Since it was important to separate second year from first year participants, those two year students were separated out. That left seventy-six students new to the program for the experimental sample. Due to mortality and absences during the administrations of the SCAMIN, the final sample of students remaining in the experimental group totaled fifty-five. The experimental sample included twenty-seven seventh graders and twenty-eight eighth graders. Special services breakdown included: eight Learning Disabled students, two Gifted and Talented (GTL) students, and four ESL students. Ethnic breakdown included: twenty-seven White students, fourteen Black students, seven Hispanic students, two American Indian students, and five Asian students.

The original sample for the control group, at Jackson Intermediate School, was forty-nine student volunteers. Due to mortality, forty-two remained in the control sample. The control sample included twenty-one eighth graders and twenty-one seventh graders. Special services breakdown

included: four Learning students, one Gifted and Talented student (GTL), and three English as a Second Language (ESL) students. Ethnic breakdown included twenty-five White students, six Black students, six Hispanic students, and five Asians.

Actual matching was attempted on the basis of ethnic category, gender, ESL Special Education Services (LDR and GT), and grade level. However, the numbers in the sample for the separate groups were too small to warrant statistical analysis. Moreover, in light of the de-emphasis on gender differences, undertaking a separate analysis was discounted (N. Milchus, personal communication, August 19, 1987; M. Bender, personal communication, August 25, 1987).

Approximately 97 students participated in the experimental research study; 55 in the experimental group at Glasgow Intermediate and 42 in the control group at Jackson Intermediate, which did not contain a Mentor Program or comparable intervention. Identified underachievers were given an opportunity to participate in the experiment. Randomization was not possible. Forty mentors from the Glasgow staff, including teachers and administrators, participated on a volunteer basis.

TWO-YEAR SAMPLE AND COMPARISON SCHOOL

The two year mentees and the remaining non-SCAMIN mentees remained in the mentor program, but were not a part of the primary design of the study. However, the two year student data (N=24) was presented in the descriptive summary sections of Chapters Four and Five. Additionally, the data from Key Intermediate School Mentor Program, N=34, which replicated the Glasgow Intermediate model, were included in the descriptive summary sections of Chapters Four and Five.

THE TREATMENT - THE MENTOR PROGRAM

The treatment lasted seven months, from November, 1986 through May, 1987, and is described by the program description found in the Glasgow Mentor Model (Appendix A). The Glasgow Guidance Department, working with administrators and teachers implemented an affective education program called the Glasgow Mentor Program. The overall program goal, set forth in the Mentor Program Guide, proposed: "Underachievers will be provided an opportunity to overcome deficiencies in all subjects, improve study skills, time management skills, and test-taking skills, and develop self-confidence as learners through participation in the Mentor Program" (Appendix A, p. 6).

The program objectives, as stated in the mentor guide, included:

1. Foster development of a helping relationship between student and mentor that may become the basis for aiding students to deal more effectively with academic expectations.
2. Develop strategies for improving individual academic performance of underachievers.
3. Develop a positive working relationship with the underachiever and his/her parents through improved communication and increased parental involvement.
4. Improve underachievers' perceptions of themselves as learners.
5. Provide inservices for staff development to mentors, enabling them to be effective educational advisors to underachievers (Appendix A, p.6).

The Mentor Program had six major components (Haring-Hidore, 1986). They included:

1. Identification of the population.
2. Orientation for students, parents and mentors.
3. Inservices for mentors and parent meetings.
4. Mentor-mentee meetings.
5. Group guidance study skills sessions.
6. Program evaluation.

The step-by-step procedures accompanying these components were comprised of the following:

1. Identifying the Population: The identification process included: (a) targeting the underachieving population, (b) obtaining permission to participate

in the program/study, and (c) matching mentorships as outlines:

- (a) Through a needs assessment by the guidance director, the underachieving students were identified in October of the new school year, at interim time of the first grading period, using a specific set of criteria (Definitions, Chapter I). Essentially, students were identified based on: a) the list of students receiving D or F in one or more academic subjects, placing them in danger of failing, b) teacher or counselor referral of students not performing to full academic potential, and/or c) needing support in developing confidence as learners.
 - (b) Permission slips were sent home with student applicants, which included a parent brochure explaining the mentor program. Counselors collected the signed student and parent permissions to participate, which were due by the fourth week of October. At the control school, a brief orientation regarding the pre and post administration of the self-concept inventory (SCAMIN) was presented to identified underachievers, using the same set of criteria as the experimental school. Permissions were secured by the control school contact counselor the second week in November.
 - (c) Mentors selected 5 mentees from a list of applicants, prioritizing preferences, and indicating the number of students they wished to advise using one of the following bases: a) They were presently in their homeroom, b) They were presently in one of their classes, c) The student was one with whom the mentor particularly desired to work (Appendix A, p. 45, 47). After careful matching of mentor to student on a ratio that varied from one to three, the guidance director assigned students to the mentor's homeroom or class, where appropriate. Program/study implementation took place the first week in November (Appendix A, Timelines, p. 42).
2. Orientation Meetings: The program manager scheduled orientation meetings for potential student participants the second week of October. Parent orientations were held the third week of

October. Mentor staff orientations were held in August of the new school year. These meetings served to orient the mentors to the program goals and objectives, timelines, and the mentor guide.

3. Inservices: Four inservices for mentors were held throughout the school year. These inservices served to introduce the mentoring concept, teach mentoring skills, and review use of the mentor guide through staff development activities. Speakers and consultants on relevant topics were secured. Three parent education workshops were held throughout the school year.

- (a) The Mentor Guide, included in Appendix A, was prepared to provide guidelines for mentors working with underachieving students. The guide was divided into six sections: A program discussion followed by five phases. The first section of the Guide, Program Rationale, included background, program design, definitions, goals and objectives and suggested work plans. The second section, Phase I, Getting Started, included warm-up and relation-building activities. The third section, Phase II, Monitoring, included activities that provide structure in monitoring of academic progress. The fourth section, Phase III, Communications, provided copies of communications sent to parents, and program timelines and information for mentors. The fifth section, Phase IV, Evaluation, contained program evaluation surveys and assessments, developed by the program manager and mentor committee. The sixth section, Phase V, Research, included journal articles and current research on related topics. The purpose of the mentor guide was two-fold: (a) as a pre-service training model, and (b) as an on-going reference for mentors. It was reviewed and revised annually by the Mentor Committee. While the guide served as a basis for operating, it was expected that the range of "mentoring" varied with each individual volunteer mentor.

4. Mentor-Mentee Meetings: The "heart and soul" of the mentor program was the interaction between the intervening staff person and the student in need of assistance. This intervention occurred through:

- (a) Homeroom, where daily contact was encouraged for an "affect check;" (i.e. Does he/she have required materials and homework? How does the student seem in appearance and attitude?).
 - (b) Meetings when mentors saw their mentees at least once each week for academic progress check, general assistance, and tutoring.
 - (c) Monthly meetings when mentors and mentees met for academic support, relationship building activities, playing sports games together, and sharing refreshments.
 - (d) The end of the year activity where mentors teamed together to play a game of softball with mentees after school.
5. Group Guidance Sessions: Group guidance study skills sessions for mentees, led by counseling staff, were held monthly during fourth period. Utilizing the Fairfax County Intermediate Classroom Guidance Units Grade 7 and 8, topics ranged from self-concept, time-management, learning styles to test-taking skills (Fairfax County, 1985).
6. Program Evaluation: The program manager, in cooperation with the principal and guidance director, planned evaluation components for the program to include quantitative (i.e. GPA growth, grade distribution, failure rate, and self-concept growth) and qualitative outcomes (i.e. behavioral ratings by teachers, mentor, mentee, and parent program evaluations, and number of reported mentor/mentee afterschool meetings). For purposes of this study, the measurement was keyed to specific self-concept and achievement variables (see Hypotheses Section, Chapter One). The Self-Concept and Motivation Inventory (SCAMIN) was administered by the principal the fourth week of October to subjects at the experimental school and the second week of November to subjects at the control school as a pre-measure on self-concept. Teachers were also asked to rate the mentees on the Self-Concept Rating Scale as a pre/post measure at the experimental school only (Appendix B, p.51). Use of this instrument at the control school was rejected in an effort to maintain a low profile.

RESEARCH INSTRUMENTS

Affective Measurement

Affective growth as defined in this study, means the change in the student's self-esteem and motivation scores as measured by the Self-concept and Motivation Inventory herein referred to as the SCAMIN (see Manuals of Interpretation and Directions in Appendix C). This instrument has been used in Fairfax County for prior research purposes. It was approved for use in the Mentor Program pilot study during the 1985-86 school year by The Office of Research and Evaluation. The authors, Norman J. Milchus, George A. Farrah and William Reitz developed the SCAMIN to measure self-concept.

Self-concept is described by the authors as the Academic Self-concept and is defined as how a child views his role as a learner in school. It is the student's sum of experiences, perceptions, attitudes, and feelings about school and schoolwork. Two elements make up self-concept: Role Expectations, which is the positive acceptance of the aspirations and demands that the student thinks others, "significant others," expect of him, and Self Adequacy, which is the positive regard with which a student views his present and future probabilities of success.

Motivation, on the other hand, is the expressed need of a child to achieve a goal in school, and the moderate avoidance of the child toward failure in school, avoidance below the point of anxiety. Motivation has a strong element of cooperative adjustment toward school. Two elements make up motivation: Achievement Needs which is the positive regard with which a student perceives the intrinsic and extrinsic rewards of learning and performing in school, and Achievement Investment, which is the awareness and concern toward shunning the embarrassment and sanctions which are associated with failure in school. When achievement investment is extremely high without support from the self-concept, realistic avoidance becomes anxious fear. Anxious fear or failure anxiety stifles achievement (Milchus, Farrah and Reitz, 1968).

The Eighth Mental Measurement Yearbook reports the reliability correlation coefficient for the SCAMIN Secondary Form to be .93, which was obtained by the split-half method, reflecting item homogeneity rather than test-retest stability. They report this reliability is adequate for group data and the inventories are appropriate for program evaluation or research (Burros, 1977).

Validation studies of cross-correlation SCAMIN factors with those of other self-concept tests was halted because it

was thought that the different theoretical constructs of various inventories and the intended purposes of each inventory should remain apart. Validation studies, using only the motivation part of SCAMIN-Secondary Form reported correlation between Achievement Needs and Achievement Investment was .62. Other validation studies included the Elementary Forms (Milchus, 1979).

Although the largest use of SCAMIN has been the pre-post evaluation of innovative and compensatory education programs in the United States and Canada, many research quality dissertations, and longitudinal studies have used this instrument. Other uses have been for its predictive nature and for program evaluation (Milchus, 1979, 1987).

Each SCAMIN form was normed from approximately 1000 students. The stanines were read from the percentile distributions rather than from the standard deviations to correct to a normal distribution shape. Students were drawn from ghetto, urban, and suburban areas where there was no usual programming directed toward motivation or self-concept. The norms are more heavily weighted toward urban minorities than the population as a whole. Norm sites were in Southeastern Michigan and the Los Angeles area where sizeable numbers of Mexican Americans were incorporated. Racial differences are small with a tendency for lower

socio-economic racial minorities to be slightly higher in Self-Adequacy and lower in Achievement Investment.

Descriptive Measurement - Quantitative

For the experimental school only, pre and post teacher ratings on the Self Concept Rating Scale (Appendix B) were used to measure observable growth in the areas of study skills, class participation and attitude; those variables referred to be Chase (1975) in The Other Side Of The Report Card. This form has been successfully used as an affective measure by guidance departments in other intermediate schools in Fairfax County. Teachers were asked to rate students on these variables when the student entered the program and at the end of their program participation. There were 55 possible points. Behaviors such as participating in class discussions, turning in assignments, and interacting positively with others were rated by teachers. Summary findings are reported in Chapter Four under Descriptive Summary Findings. The rationale behind not using it at the control school involved two issues: (1) internal validity and (2) confidentiality of participants.

It was felt that if teachers were aware that these students were being watched, they might do more than what

would normally be done and biases would enter their ratings. This was an attempt at controlling a Halo Effect which could affect internal validity. There was no attempt to control for this at the experimental school since the treatment students were openly monitored by mentors. However, for the sake of consistency, the same mentor or teacher rated the pre and post observations.

Cognitive Measurement

One form of measurement to be used to measure cognitive performance of students participating in the study were letter grades as recorded on student records at interim time of the first grading period and the final letter grades, using the Fairfax County grading system. The letter grades, as awarded by the teachers, were computed for grade point averages (GPA) for a pre and post measure of student achievement. The GPA, while providing a global assessment of performance, is usually the chief criteria for promotion (Wilson, 1986). Refer to Definitions Section, Chapter 1 for further explanation.

Failure rates were the second measurement of achievement (or non-achievement) used in this study. By the student failure variable (retention), it meant failing for the entire school year as determined by a final F grade in

English and/or Math or by failing to maintain a 1.0 overall grade point average for the final grade point. Two other variables on failure were analyzed for both schools. These included the total number of classes failed by students (retained or promoted) recorded on the final grade report at the end of the school year for experimental and control schools. The Guidance Director for each school records and maintains these student records. The failure rates were reported to this researcher after the grades were awarded by the teachers and recorded by the guidance secretaries at each school. Failure rates for the experimental and control groups were reported, as well as failure rates for the entire school. The former was for group comparison purposes as keyed to the hypothesis testing, the latter was for supportive information purposes.

QUALITATIVE DATA FOR DESCRIPTIVE SUMMARY - Ethnographic Data

Student Evaluations--A student post evaluation survey instrument was administered to the experimental group in May, 1986. This instrument contained closed and open-ended questions. The closed questions consisted of ten questions pertaining to mentor program involvement, using a four point Likert Scale, designed by this researcher in cooperation with the mentor committee. For each question, students were told to circle the best answer. The survey contained two

open-ended questions at the end of the survey relating to what they liked best and least about the program (Appendix A, p. 54b). These responses were recorded by this investigator and are reported in Chapter Four under Descriptive Summary Findings.

Mentor Evaluations--A questionnaire, consisting of ten open-ended questions was administered to mentors as a post program/study evaluation measure. This instrument was designed by this researcher in cooperation with the mentor committee during the 1985-86 Pilot Program (Appendix A, p.52). These responses were recorded by this investigator and summary findings are reported in Chapter Four under Descriptive Summary Findings. The information is useful in planning the next year's program.

Parent Evaluations--Administered in the Spring, 1986, this survey used a Likert scale to measure attitude and also included two open-ended questions (Appendix A, p.53, 54A). It was developed by a Masters Degree student who was also a mentor, and who shared her findings with this researcher (M. Fredman, personal communication, May 20, 1987). Brief summary findings are reported in Chapter Four under Descriptive Summary Findings.

Participation Level--Mentor/mentee after school meeting logs were kept and recorded (Appendix A, p.34). Number of meetings were reported for each month and each grading quarter. Summary findings are reported in Chapter Four under Descriptive Summary Findings.

DATA COLLECTION

The guidance directors, guidance secretaries, and guidance counselors were responsible for collecting data at both schools. The SCAMIN instrument is one tool for gathering data. Person-o-metrics did the scoring by Digitek Optical Scanning (although hand scoring is not difficult). Dr. Norman Milchus, author of the SCAMIN, personally did the computerized scoring. Additionally, Dr. Milchus scored the SCAMIN protocols from the second year students in the Glasgow Mentor Program and from the other intermediate school that cooperated in the study for supplemental data purposes.

School records were used in collecting the letter grades for the first quarter interim period and final grading periods. The Glasgow Guidance Director and Principal assisted in computing GPA's and administering the SCAMIN for both groups. The SCAMIN requires 50 minutes to be administered. Therefore, it took approximately two hours

to adequately administer it at Glasgow twice (Fall and Spring) and three hours to administer it twice (Fall and Spring) at the control school, including travel time. Collecting and computing group pre and post grade point averages for both groups took approximately six hours, with the use of the school computer to separate out the Mentor student participants. Computing pre and post individual student grade point averages for both groups took considerably longer.

The guidance counselors at Glasgow Intermediate School were responsible for collecting the qualitative data to include: the pre and post Self-Concept Rating Scales from mentors and teachers in November and June, the post student and mentor evaluations, and the participation level recorded monthly and quarterly on the number of mentor/mentee after school meetings.

DATA ANALYSIS

Most of the data collected from affective and cognitive performance of students were analyzed by group comparisons in order to discover any relationships. In order to report the findings of the study in relation to the hypotheses, pertinent data were tabulated, described and analyzed on the input variables. Stanley and Campbell support the use of an

analysis of covariance for the non-equivalent control group design (Campbell and Stanley, 1966). Caution, however, is urged in application of the analysis of covariance (Huck, Cormier, Bounds, 1974). They contend that due to nonrandomization of subjects to comparison groups, assumptions associated with the analysis of covariance might be violated. The use of the analysis of covariance design was used to control statistically any initial differences in the students which might have been present and which might confound differences between the two groups of students (Huck, Cormier, Bounds, 1974). The F test was applied to determine significance at the .05 level of significance for the between group variance and the within group variance. A SPSSX Package and SAS were used to verify most of the data.

For estimating effects of a treatment at the school level indirectly through comparing observed effects of the treated group with predicted untreated effects of the group, a Value Added Analysis was performed.

For the achievement data, an ANCOVA was performed, using pre GPA, SRA Composite (GSV) and ability (EAS) scores as covariates to compare pre and post GPA gain between groups.

For the SCAMIN data, a t-test and ANOVA were performed to compare pre and post means on four separate variables of self concept for both groups.

For the failure data, a Chi-Square, crosstabulation was performed to see if there was a difference between groups on failure (retention) rate, an ANOVA procedure was performed on the number of students failing one to six classes for both groups, and t-test comparison between groups was performed on number of students failing any class (numbfail).

For explaining the relationship between the predictor measures and the criterion measures, a Canonical Correlation Analysis was performed on two groups and on three groups.

For the teacher ratings on the student Self Concept Rating Scale, a pairs t-test was performed to determine a difference between pre program and post program behaviors that related to class performance.

For the two year data, two separate pairs t-tests were performed to determine differences between pre 1985-86 pilot program and post 1986-87 mentor program on GPA gain and self-concept, as measured by the four variables on the SCAMIN.

For the third school, GPA, SCAMIN, and failure data were collected and similar analyses were performed for inclusion in the descriptive summary for linkage to study design.

The responses from the student, mentor and parent surveys were analyzed to determine their perceptions of the mentor program impact for each surveyed population.

Finally, ethnographic information including the post student, mentor, and parent surveys, mentor/mentee participation level, plus the four interviews, compiled by the researcher were collected for linkage to any of the quantitative data.

SUMMARY

The design and sample of the study, the treatment, the instruments used in the data collection, and data analysis were discussed in this chapter.

CHAPTER IV - FINDINGS

INTRODUCTION

The purpose of this chapter is to report the findings of the study in relation to the research questions and the hypotheses. Chapter One of this study posed the following research questions:

1. What is the difference between the experimental and control groups on GPA gain, adjusted for initial GPA, SRA GSV (composite), and SRA EAS (ability) scores?
2. What is the difference between experimental and control groups on self-concept, as measured by a comparison of pre and post SCAMIN scores on each of the four variables measuring self-concept?
3. What is the difference between experimental and control groups on failure rate as measured by end of year student failure rates?
4. What is the relationship between the predictor (independent) measures and the criterion (dependent) measures?

Since the students were not randomly selected for the study, and the treatment took place at the school level, instead of the student level, the random unit became, technically, the school. The random unit, therefore, was higher than the testing unit requiring the researcher to test treatment effects at the school level. To test overall effects of a treatment at the school level without testing

the treatment, a value added analysis was performed (Byrk and Weisburg, 1976).

VALUE ADDED ANALYSIS

Procedure

Value added analysis estimates effects of a treatment indirectly through comparing observed effects of the treated group with predicted untreated effects of the group. The predicted untreated effects are found through regression estimates based on relationships of the criterion variable to group characteristics established in the control or comparison group. Treatment effects are assessed at the school level in the following manner:

1. Control group scores on pre-GPA, SRA EAS (ability), SRA GSV (composite), grade, sex, ethnic background, and achievement were regressed upon the post-GPA. Results represented the relationship between the characteristics of the control group and the criterion variable (post-GPA).
2. A regression equation was found and predicted values were generated based on that equation.
3. It was found that the variables explained 75% of the variance in post-GPA.
4. Using the regression equation for the control group, scores of the experimental group were analyzed. Predicted values based on that regression equation were computed.
5. The predicted values of each group were then compared by a pooled t-test to assess whether or

not there was a difference between group means, which would indicate that the treatment group had an observable effect/increased value over the control group.

The results of the analysis comparing the predicted values of each group are reported in Table 1. The t-test indicated the means of the predicted values of the control versus experiment groups were equal, $p=.7501$. Results of this analysis indicated that the students reacted to the treatment homogeneously; there was no significant difference between means corrected for the characteristics of the schools. The treatment, as studied in this design, did not work.

In addition, a paired t-test that was run to assess whether or not the difference between the means was significantly different from zero indicated there was a zero difference, $p=.8373$.

HYPOTHESES:

Chapter One of this study posed the following hypotheses stated in the null form to facilitate statistical treatment of the findings:

1. There is no difference between the experimental and control groups on GPA gain, adjusted for initial GPA, SRA GSV (composite), and SRA EAS (ability) scores.

TABLE 1

T-TEST COMPARISON BETWEEN GROUPS ON
PREDICTED VALUES OF EACH GROUP

GROUPS	N	MEAN	STANDARD DEVIATION	t	DF	p
EXPERIMENTAL	55	2.08	0.58			
CONTROL	42	2.12	0.75			
				-0.31	75.8	0.75*

Note. * $p > .05$.

2. There is no difference between experimental and control groups on self-concept, as measured by a comparison of pre and post SCAMIN scores on the four variables measuring self-concept.
3. There is no difference between experimental and control groups on failure rate, as measured by end of year student retentions and number of classes failed.
4. There is no relationship between the predictor (independent) measures and the criterion (dependent) measures.

The first three hypotheses are reported in this chapter. The fourth hypothesis is reported both in Chapters Four and Five, due to relevant results and findings that were uncovered during and after the investigation's course, but not in its initial design.

Following the value-added analysis findings, which suggest the experimental design needs to be re-examined, are the research findings from the hypotheses testing as follows:

HYPOTHESIS NUMBER ONE

The null hypothesis that there would be no difference between experimental and control groups on GPA gain, adjusted for initial SRA GSV (composite) and SRA EAS (ability) scores was accepted. Displayed in Table 2 are the results of the Analysis of Covariance comparison of groups

on post GPA, adjusted for initial pre GPA and SRA composite scores. Using the post measure as the dependent variable, the ANCOVA procedure produced a probability level of $p=.398$, which is above the .05 level of significance. Results indicate that there was no difference between experimental and control groups on GPA gain, adjusted for initial GPA, SRA GSV (composite), and SRA EAS (ability) scores.

Reported in Table 3 is a listing of the achievement data by group. Included are the initial pre GPA scores, post GPA scores, SRA EAS ability scores, and SRA GSV composite scores. To indicate group differences on each variable, analyses of variance were completed. An ANCOVA on EAS (ability) scores for both groups produced a p -value of .074, indicating groups were equal and, although near, not different at the .05 level. An ANOVA on GSV (composite) scores produced a p -value of .066, indicating groups were equal, although near, not different at the .05 level of significance. Initial group GPA means were 1.79 for the experimental group and 1.99 for the control group. An ANOVA on pre GPA found the groups equal on this variable. Post group GPA means were 2.029 for the experimental group and 2.130 for the control group.

To review the research findings on group grade point average, an analysis of covariance revealed that the

TABLE 2

ANALYSIS OF COVARIANCE: COMPARISON ON POST GPA,
ADJUSTED BY INITIAL SCORES

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN CELLS	20.35	92	.22		
REGRESSION	28.84	3	9.61	43.45	.000
METHOD	.16	1	.16	.72	.398*
TOTAL	49.35	96	.51		

Note. * $p > .05$.

TABLE 3

COMPARISON OF GROUP MEANS ON ACHIEVEMENT

Cell Means and Standard Deviations			
FACTOR	N	MEAN	STANDARD DEVIATION
Variable.. POSTGPA			
EXPERIMENTAL	55	2.029	.588
CONTROL	42	2.130	.863
Variable..PREGPA			
EXPERIMENTAL	55	1.796	.550
CONTROL	42	1.993	.598
Variable..GSV			
EXPERIMENTAL	55	396.964	54.302
CONTROL	42	418.071	77.215
Variable..EAS			
EXPERIMENTAL	55	378.164	64.357
CONTROL	42	406.571	90.464

difference between the groups was not significant at the .05 level of significance, even though the experimental group had a greater increase in mean GPA than the control group (+.233 vs. +.137). It was concluded that the mentor program produced positive, achievement gains, as measured by GPA growth, that were non-significant.

HYPOTHESIS NUMBER TWO

The null hypothesis that there is no difference between experimental and control groups on self-concept, as measured by a comparison on pre and post SCAMIN scores on the four variables measuring self-concept was generally accepted. As defined in Chapter One, The SCAMIN, Secondary Form, was administered in the Fall (late October for experimental group, early November for control group) and Spring (late May) of the school year to both groups. The SCAMIN is appropriate for grades 7-12; reliability is .93 (Burros, 1977). The unique design balances three variables per item. Twenty-two optional sub-clusters may be scored from 64 questions. Administration is oral; consuming 40 minutes in time. The style of self-report may be inferred from the main profile. The researcher sent them to the author, Pearson-o-metrics, who arranged for Digitek Optical Scanning scoring. Means and standard deviations of pre and post testing were computed; differences between means were

analyzed by use of a t-test for independent samples. Separate t-tests and ANOVAs were performed on each variable measuring self-concept. Summary tables 4 through 8 report an N of 94 completed pre and post self-reports with 92 degrees of freedom. To review the research findings for the second hypothesis, the results of the four sub-hypotheses are reported on the following pages:

SUB-HYPOTHESIS NUMBER ONE: There is no difference between experimental and control groups on pre and post achievement needs variable.

For the post achievement needs variable, a t-test produced a p-value of .059, which approached the predetermined .05 level of significance (Table 8). An ANOVA on postneeds also indicated that the groups were equal (Table 4). Therefore, the null sub-hypothesis that there is no difference between the experimental and the control group on pre and post achievement needs is retained. Both groups regressed on group means from pre and post testing (63 to 61 vs. 62 to 58 rounded). However, the control group regressed a greater amount on this variable (Appendix D, Tables 8.2, 8.3). This difference is discussed in Chapter Five.

TABLE 4

ANALYSIS OF VARIANCE FOR THE POSTNEEDS
VARIABLE OF SCAMIN

Source of Variation	SS	DF	MS	F	Sig of F
BETWEEN CELLS	208.77	1	208.77	3.66	.059*
WITHIN CELLS	5251.70	92	57.08		
TOTAL	5460.47	93	58.71		

Note. * $p > .05$.

TABLE 5

ANALYSIS OF VARIANCE FOR THE POSTINVESTMENT
VARIABLE OF SCAMIN

Source of Variation	SS	DF	MS	F	Sig of F
BETWEEN CELLS	50.53	1	50.53	.92	.339*
WITHIN CELLS	5031.34	92	54.69		
TOTAL	5081.87	93	54.64		

Note. * $p > .05$.

SUB-HYPOTHESIS NUMBER TWO: There is no difference between experimental and control groups on pre and post achievement investment variable.

For the post achievement investment variable (or failure anxiety), the t-test produced a p-value of .339, which is greater than the .05 level of significance (Table 8). An ANOVA completed on pre achievement investment indicated groups were equal (Table 5). For the achievement investment means, the experimental group regressed more than the control group from pre to post testing (60 to 57 vs. 61 to 59 rounded). Reported in Appendix D, Tables 8.2 and 8.3, this slight difference will be discussed in Chapter 5. The null sub-hypothesis that there is no difference between the experimental and control groups on pre and post achievement investment was retained.

SUB-HYPOTHESIS NUMBER THREE: There is no difference between experimental and control groups on pre and post role expectations variable.

For the post role expectations variable, a t-test produced a p-value of .323, which is greater than the .05 level of significance (Table 8). An ANOVA procedure on pre role expectations also indicated groups were equal (Table 6). Tables 8.2 and 8.3 of Appendix D report the pre and

post group means for separate groups. From pre to post testing, experimental and control groups regressed about the same for this variable. Therefore, the null sub-hypothesis that there is no difference between experimental and control group on pre and post role expectations was retained.

SUB-HYPOTHESIS NUMBER FOUR: There is no difference between experimental and control groups on pre and post self-adequacy variable.

For the post self-adequacy variable, a t-test produced a p-value of .014, which is below the .05 level of significance (Table 8). An ANOVA on post self-adequacy also produced a p-value of .014 (Table 7). There was a statistically significant difference in groups on post self-adequacy. Displayed in Appendix D, Tables 8.2 and 8.3 are the experimental and control group means from pre to post testing (52 to 51 vs. 49 to 47 rounded), indicating a greater regression for the control group. An ANOVA procedure on pre self-adequacy produced a p-value of .029, also indicating the group means were different (Appendix D, Table 7.1). Further analysis, using an analysis of covariance procedure on post self-adequacy, using pre self-adequacy as a covariate, produced a nonsignificant p-value of .130. Based upon the t-test analysis and ANOVA procedure, it can be concluded there is a difference between

TABLE 6

ANALYSIS OF VARIANCE FOR THE POSTROLE EXPECTATIONS
VARIABLE OF SCAMIN

Source of Variation	SS	DF	MS	F	Sig of F
BETWEEN CELLS	43.04	1	43.04	.99	.323*
WITHIN CELLS	4004.79	92	43.53		
TOTAL	4047.83	93	43.53		

Note. * $p > .05$.

TABLE 7

ANALYSIS OF VARIANCE FOR THE POSTSELF-ADEQUACY
VARIABLE OF SCAMIN

Source of Variation	SS	DF	MS	F	Sig of F
BETWEEN CELLS	257.89	1	257.89	6.27	.014*
WITHIN CELLS	3784.42	92	41.13		
TOTAL	4042.31	93	43.47		

Note. * $p < .05$.

TABLE 8

T-TEST COMPARISON BETWEEN GROUPS ON SELF-CONCEPT AND
MOTIVATION INVENTORY (SCAMIN) POST-TEST

VARIABLE GROUP	N	POST MEAN	SD	t	DF	p
ACHIEVEMENT NEEDS				1.91	92	0.059
EXPERIMENTAL	55	61.13	7.650			
CONTROL	39	58.10	7.419			
ACHIEVEMENT INVESTMENT				-0.96	92	0.339
EXPERIMENTAL	55	57.13	6.331			
CONTROL	39	58.62	8.686			
ROLE EXPECTATIONS				0.99	92	0.323
EXPERIMENTAL	55	54.53	5.903			
CONTROL	39	53.15	7.475			
SELF ADEQUACY				2.50	92	0.014*
EXPERIMENTAL	55	50.62	6.488			
CONTROL	39	47.26	6.307			

Note. * $p < .05$.

groups on the self-adequacy variable at the .05 level of significance. The null sub-hypothesis that there is no difference between experimental and control groups on pre and post self-adequacy variable was rejected.

HYPOTHESIS NUMBER THREE

The null hypothesis that there is no difference between experimental and control groups on failure rate as measured by end of year failure rates was accepted. Failure rates, as defined in Chapter One, were analyzed by three variables of interest: (a) end of year student failure (retention) rate, (b) number of students failing anywhere from one to six classes, but not necessarily failing for the school year, and (c) number of students failing any class. The use of nonparametric and parametric statistical tests were used to analyze the data.

For the first variable of interest, student failure (retention) rate, a nonparametric procedure using an independent samples Chi-Square test was used to determine whether or not the observations were significantly different from what might be expected by chance. Table 9 shows the contingency table for the failure data (N=97). Failure (YES) is represented by a 0 and not failing or passing (NO) is represented by a 1. The table reports 9 out of 55

students failing for the experimental group and 12 out of 42 students failing for the control group. Expected cell frequencies are reported. For the experimental group, 11.9 were expected to fail and 9 did fail, which indicates the observed is less than the expected. For the control group, 9.1 were expected to fail and 12 did fail, which indicates the observed is more than the expected. In addition, expected cell frequencies are reported for not failing or passing. For the experimental group 43.1 were expected to pass and 46 did pass, which is more than expected. For the control group 32.9 were expected to pass and 30 passed, which is less than expected. Table 10 reports the results of a Chi-Square test, using 1 degree of freedom. For this procedure, a p -value of .1480 (before Yates Correction) was obtained, which is greater than the .05 level of significance. Therefore, there is no significant difference between experimental and control groups on failure (retention) rates.

The second variable of interest was a comparison of experimental and control groups on the number of students failing anywhere from one to six classes, but not necessarily failing for the school year. A nonparametric procedure, using a Chi-Square test to determine differences between groups was performed. Based on a 2 x 6 contingency table, the number of students failing 1 to 6 classes were

TABLE 9

CROSSTABULATION OF FAILURE BY METHOD

COUNT EXP VAL ROW PCT COL PCT TOT PCT	METHOD		ROW TOTAL
	EXPERIMENTAL	CONTROL	
FAIL	0	9	12
YES		11.9	9.1
		42.9%	57.1%
		16.4%	28.6%
		9.3%	12.4%
NO	1	46	30
		43.1	32.9
		60.5%	39.5%
		83.6%	71.4%
		47.4%	39.9%
COLUMN		55	42
TOTAL		56.7%	43.3%
			97
			100.0%

TABLE 10

CHI-SQUARE TABLE OF RESULTS ON STUDENT FAILURE

VARIABLES	CHI-SQUARE	DF	p-VALUE
	1.43450	1	0.2310
FAILURE	2.09231	1	0.1480* (BEFORE YATES CORRECTION)

Note. * $p > .05$.

reported. The contingency table (Appendix D, Table 10.1) revealed group differences. Of the 55 students in the experimental group, 19 students failed a total of 28 classes. Of the 42 students in the control group, 20 students failed a total of 42 classes. A Chi-Square procedure produced a p -value of .0376, which is below the .05 level of significance (Appendix D, Table 10.2). While the Chi-Square test of significance indicated a difference between experimental and control groups on number of students failing any classes, the analysis could not theoretically be used due to six out of 10 cells having less than 5 observations. According to Issac and Michael (1971), no theoretical frequency should be smaller than 5. Therefore, this analysis was rejected. Table 11 shows an analysis of variance on number of students failing any class produced a p -value of .109, which is greater than the .05 level of significance. While the groups varied on the number of students failing any class; the experimental group having fewer students failing fewer classes, the ANOVA findings indicated there is no difference between groups on the number of students failing one to six classes.

For the third variable of interest, the number of students failing any class, an independent t -test procedure was performed on the total number of students failing any class; 19 out of 55 for the experimental group and 20 out of

TABLE 11

ANALYSIS OF VARIANCE ON NUMBER OF STUDENTS
ONE TO SIX CLASSES

Source of Variation	SS	DF	MS	F	Sig of F
MAIN EFFECTS	3.822	1	3.822	2.692	0.109
METHOD	3.822	1	3.822	2.692	0.109*
EXPLAINED	3.822	1	3.822	2.692	0.109
RESIDUAL	52.537	37	1.420		
TOTAL	56.359	38	1.483		

Note. * $p > .05$.

TABLE 12

T-TEST COMPARISON BETWEEN GROUPS FOR NUMBER OF STUDENTS
FAILING ANY CLASS

VARIABLE	N	MEAN	SD	t	DF	p
NUMBFAIL				-1.67	28.91	0.107*
GROUP 1	19	1.4737	0.772			
GROUP 2	20	2.1000	1.483			

Note. * $p > .05$.

42 for the control group. Of all students who failed classes, group 1 (experimental students) failed an average of 1.4737, whereas group 2 (control students) failed an average of 2.10. Group 2 students failed more classes than group 1 students, but the difference was not significant. The t-test procedure produced a p-value of .107, which is greater than the .05 level of significance. Therefore, there is no difference between groups on number of students failing any classes.

To review the research findings on failure rates, as an achievement measure, tests of significance indicate that there is no difference between experimental and control groups on failure, as measured by end of year failure rates. Therefore, the null hypothesis was retained.

HYPOTHESIS NUMBER FOUR

The null hypothesis that there is no relationship between the predictor (independent) measures and the criterion (dependent) measures was significant on one of the three canonical correlation analyses.

For descriptive purposes, the use of a multivariate analysis was employed because the researcher was concerned with linear relationships among sets of criterion variables

and predictor variables (Green and Tull, 1970). A canonical correlation analysis of the two schools was performed in order to explain the relationship between two variable sets: the predictor and the criterion. The predictor set, or X set, contained the independent measures: METHOD, SRA EAS (ability), SRA GSV (composite), and PRE GPA. The criterion set, or Y set, contained the dependent measures: POST GPA, FAILURE (student), and NUMBFAIL (class). Table 13 indicates the canonical correlation analysis produced a p-value of .0240, which is below the .05 level of significance. Therefore, one canonical correlation was significant and can explain the relationship between variable sets.

While the first canonical correlation explains with statistical significance the relationship between the two variable sets ($p=.0240$), the other canonical correlations were not statistically significant but descriptively explain the relationship between the two variable sets. All three canonical correlations can be used to define or describe the relationship between the variables. Descriptively, the canonical correlations as reported on Table 14 indicate:

1. The first canonical correlation indicates that students with a high pre GPA and a moderate GSV (composite) score had a higher post GPA and failed fewer classes. This relationship is explained at the .05 level of significance.
2. The second canonical correlation indicates students at Jackson had a higher EAS (ability) but failed a larger number of classes.

TABLE 13

CANONICAL CORRELATION ANALYSIS OF TWO SCHOOLS EXPLAINING
THE RELATIONSHIP BETWEEN TWO VARIABLE SET;
PREDICTOR AND CRITERION

	LIKELIHOOD RATIO	APPROX F	NUM DF	DEN DF	PR > F
1.	0.5007	2.1153	12	84.9555	0.0240*
2.	0.8170	1.1693	6	66	0.3334
3.	0.9972	0.0460	6	34	0.9551

Note. * $p < .05$.

TABLE 14

CANONICAL STRUCTURE ON TWO SCHOOLS:
GLASGOW AND JACKSON

CORRELATIONS BETWEEN THE "VAR"(CRITERION) VARIABLES
AND THEIR CANONICAL VARIABLES

	CC1	CC2	CC3
POST	0.9433*	0.2016	0.2636
FAIL	0.2433	-0.3107	0.9189***
NUMBFAIL	-0.7751*	0.6108**	-0.1613

CORRELATIONS BETWEEN THE "WITH" (PREDICTOR) VARIABLES
AND THEIR CANONICAL VARIABLES

	W1	W2	W3
METHOD	-0.0133	0.9815**	0.1045
EAS	0.1971	0.5598**	-0.7741***
GSV	0.4652*	0.3426	-0.7610***
PRE	0.8615*	0.3667	0.2592

Note. Descriptively, the correlations indicate the following:

*CC1: Students with a high pre GPA and a moderate GSV (composite) scores had a higher post GPA and failed fewer classes. This relationship is explained at the .05 level of significance ($p=.0240$).

**CC2: Students at Jackson had higher EAS (ability) but failed a larger number of classes.

***CC3: Students with lower EAS (ability) scores and lower GSV (composite) scores did not fail classes.

Canonical redundancy analysis indicates the criterion variables cannot be predicted by the predictor variables.

3. Overall, the third canonical correlation indicates students with lower EAS (ability) scores and lower GSV (composite) scores did not fail classes.

The null hypothesis, that there is no relationship between the predictor (independent) measures and the criterion (dependent) measures was significant on one of the three canonical correlations ($p=.0240$). Because there was a relationship indicated between the criterion measures and the predictor measures, the fourth null hypothesis was rejected on the basis of this analysis. Discussion of these findings will be reported in Chapter Five.

SUMMARY OF EMPIRICAL FINDINGS

The findings of this study in relation to the original proposal and hypotheses were contained within this chapter. The data obtained indicate that students in the experimental group did not differ significantly from the control group on the first three hypotheses. The data obtained from the fourth hypothesis explained with significance the linear relationship between two variable sets; predictor (independent measures) and criterion (dependent measures) for the two schools.

The data obtained regarding the first hypothesis did indicate that an increase in experimental group mean scores

on GPA was observed between the pre and post data. The lack of significance may be attributable to several factors; control group contamination discussed in Chapter One, school level effects on treatment, and a weak experimental design to control for these factors. Additional discussion is included in Chapter Five.

The data obtained regarding the second hypothesis did indicate that in spite of the regression for both groups from pre to post on SCAMIN data, the experimental group did differ from the control group on one of the four factors measuring self-concept, and approached significance on a second factor. Several explanations are presented in Chapter Five regarding the lack of overall significance, supported with descriptive experimental data.

The data obtained regarding the third hypothesis relating to failure variables of interest did indicate a difference between groups; the experimental group experiencing less student and class failure than the control group. The lack of significance between groups may be attributable to the small N for groups and to school level effects which are discussed in Chapter Five.

Results of the Value Added Analysis indicated that the students reacted to the treatment homogeneously. There was

no significant difference between means corrected for the characteristics of the schools. The treatment, as studied in this quasi-experimental design, did not work. Overall, research findings produced non-significant gains and differences between groups.

DESCRIPTIVE SUMMARY FINDINGS

The use of two research methodologies; quantitative and qualitative, in conjunction with one another, rather than an exclusive emphasis on one design has been suggested as providing more complete and useful information because it focuses on both outcomes and processes, and adds to the scope and breadth of the assessment (Brookover, 1980). The descriptive information includes a teacher rated self-concept rating scale on the experimental group and the data analyses from the two year program students and the data analyses from a third school, who modeled the Glasgow program during the 1986-87 school year and who shared the data with this researcher. Ethnographic information including post student evaluation, post mentor evaluation, pre and post parent surveys, and mentor participation levels, and three interviews were collected for linkage to any of the quantitative data.

Because the purpose of this study was to conduct a study of the efficacy of a Mentor Program model with intermediate school underachievers, and to identify the unique problems on assessing such a model, it was important to look beyond the empirical data. This study was designed to provide a data base from which to answer several research questions. The real importance of this study can be gleaned from the qualitative data that follows.

SELF-CONCEPT RATING SCALE

Teachers were asked to rate the mentees on the Self-Concept Rating Scale as a pre/post measure at the experimental school only. The rating scale was originally developed and implemented by an Intermediate guidance director in Fairfax County, who shared her instrument with this researcher (M. Musgrove, personal communication, September 19, 1986). It was adapted for Glasgow Intermediate school and is currently used as an assessment of student behavior with other mentor programs in the County. The Self-Concept Rating Scale uses a five point Likert Scale to rate eleven student classroom behaviors and study skills, such as; "turns in assignments, cooperative attitude, interacts positively with other," (Appendix A, p. 51).

According to Brophy (1974), accuracy of teacher impressions through observations correlate highly with actual student behavioral and academic performance over time. The same teacher was asked to rate students on the pre and post measure in one academic class. Evaluations were submitted to the guidance office in November and June of the study year. Group means on the pre and post measures were calculated and a paired t-test was performed to determine a difference between pre program and post program behaviors that relate to class performance. Table 15 reports the results of the analysis. On the pre measure, a group mean of 27.47 was obtained on a scale of 55, the highest obtainable score. On the post measure, a group mean of 38.69 was obtained. The paired t-test produced a p-value of .000, which is below the .05 level of significance. This finding suggests that the teachers' perceptions of student growth in the areas measured by the Self-Concept Rating Scale was significant at the .05 level of significance.

TABLE 15

PAIRED T-TEST ON GAIN FOR PRE AND POST SELF-CONCEPT
RATING SCALE FOR EXPERIMENTAL GROUP (N=55)

VARIABLE	N	MEAN	SD	t	DF	p
				-10.31	54	0.000*
PRERATE	55	27.4727	9.828			
POSTRATE	55	38.6909	8.250			

Note. * $p < .05$.

TWO YEAR MENTEE FINDINGS

Chapter One presented the information on the pre-study pilot mentor program in the Background Section. The pilot study mentees remaining in the mentor program were evaluated separately over the two year period on identical measures as the experimental students in order to assess the efficacy of a mentor model over a two year period. Table 16 shows the results of a paired t-test on gain for the pre and post GPA scores of the two year program mentees. For $N=24$, the initial GPA group mean (PRE GPA) was 1.79 in October of 1985, when they entered the program. The post group mean (POST GPA) was 2.41 in June of 1987. A paired t-test on gain produced a p-value of .000, which is below the .05 level of significance. This finding suggests that for this particular group of students, the gain in GPA over the two year period was significant at the .05 level of significance.

Additionally of interest was the self-concept growth for the two year mentees, as measured by the SCAMIN. Tables 17 through 20 report the results of this analysis. Separate paired t-tests were performed on gain for pre and post achievement need, achievement investment, role expectations, and self-adequacy variables. On two of the four variables of SCAMIN that combine to make up the elements of Self-

TABLE 16

PAIRED T-TEST ON GAIN FOR PRE AND POST GPA
FOR TWO YEAR MENTEES (N=24)

VARIABLE	N	MEAN	SD	t	DF	p
				-5.35	23	0.000*
PRE GPA	24	1.7908	0.399			
POST GPA	24	2.4137	0.552			

Note. * $p < .05$.

Concept and Motivation, significant gains were reported. The paired t-test for the achievement need variable produced a p-value of .000, which is below the .05 level of significance (Table 17). This finding indicates that the gain in the positive regard with which a student perceives that intrinsic and extrinsic rewards of learning and performing in school was significant at the .05 level of significance for these two year program students.

Table 18 reports the paired t-test results on gain for the pre and post achievement investment variable of the SCAMIN. The paired t-test for the achievement investment variable produced a p-value of .040, which is below the .05 level of significance. This finding indicates that failure anxiety increased for this two year group of students. In comparing raw scores of the two year mentees to the one year mentees on this variable, it is interesting to note that the experimental group mean score on the post achievement investment variable was 57. This was the same score obtained by the two year mentees on the pre measure. Yet, the post group mean score for the two year students was 61. What this may mean is that a moderate amount of failure avoidance is necessary in order to achieve if we attempt to correlate this factor with the growth in the two year GPA for this group, which was significant. This finding regarding the moderate amount of failure anxiety is

TABLE 17

PAIRED T-TEST ON GAIN FOR PRE AND POST ACHIEVEMENT
NEED VARIABLE OF SCAMIN (N=22)

VARIABLE	N	MEAN	SD	t	DF	p
				-5.09	21	0.000*
PRENEED	22	56.5000	6.308			
POSTNEED	22	63.0909	4.219			

Note. * $p < .05$.

TABLE 18

PAIRED T-TEST ON GAIN FOR PRE AND POST ACHIEVEMENT
INVESTMENT VARIABLE OF SCAMIN (N=22)

VARIABLE	N	MEAN	SD	t	DF	p
				-2.19	21	0.040*
PREINV	22	57.3636	9.240			
POSTINV	22	61.3182	9.479			

Note. * $p < .05$.

TABLE 19

PAIRED T-TEST ON GAIN FOR PRE AND POST ROLE
EXPECTATIONS VARIABLE OF SCAMIN (N=22)

VARIABLE	N	MEAN	SD	t	DF	p
				-1.25	21	0.225*
PREROLE	22	52.0455	6.931			
POSTROLE	22	54.5000	5.217			

Note. * $p > .05$.

TABLE 20

PAIRED T-TEST ON GAIN FOR PRE AND POST SELF-ADEQUACY
VARIABLE OF SCAMIN (N=22)

VARIABLE	N	MEAN	SD	t	DF	p
				-1.87	21	0.076*
PREROLE	22	48.5909	5.261			
POSTROLE	22	52.0455	7.834			

Note. * $p > .05$.

supported by Milchus (1968, 1987). These two variables, achievement need and achievement investment combine to make up the element of motivation on the SCAMIN.

For the element of self-concept on the SCAMIN, the two variables that combine to make up this element are role expectations and self-adequacy. On both of these variables, the two year group produced positive, non-significant gains at the .05 level of significance (Tables 19 and 20). Again, it is interesting to note that a comparison between the two year and one year mentees on raw score group means for pre and post testing reflects the post scores for the two year group look like the pre scores for the one year group.

MENTOR PROGRAM STUDENT EVALUATION

A student evaluation was administered in June as a qualitative measure of the mentor program (N=87). Students were asked 10 closed questions on a four point Likert Scale developed by this researcher with the assistance of the mentor committee (Appendix A, p. 54B). The response choices ranged from A=Agree, TA=Tend to Agree, TD=Tend to Disagree and D=Disagree. Two open-ended questions were included, which asked: A. What I liked best about the program was..., and B. What I liked least about the program was... Data collection consisted of listing individual responses,

followed by cluster grouping those responses on the open ended questions. Data collection for the closed questions consisted of tabulating the frequency of responses for each Likert item on each question. Percentages were calculated on the totals. Displayed in Appendix B are the row percentages combined to total 100% for each item. For reporting purposes, the percentage data were grouped into two categories; agree and disagree.

Summarizing specific items, the student evaluation indicated the following: For item number 1, approximately 73% of the students felt (agree/tend to agree) that the mentor program helped them to improve one or more of their grades, whereas 27% tended to disagree or disagreed. For item number 2, 82% felt the mentor was interested in them, 18% tended to disagree/disagree. For item number 3, 55% of the students met with their mentors on a regular bases, 45% did not. For item number 9, 75% liked having a mentor, 25% tended to disagree/disagree. For item number 10, 75% would agree to be in the program again, 25% tended to disagree or disagree.

The open-ended questions elicited student responses that are included in Appendix B. In summarizing these responses, for question A: "What I liked best about the program," three things were obvious: (a) The students were

encouraged by the extra support they received from the mentor and the knowledge they gained from the group guidance study skills lessons, (b) the students liked the softball game with the mentors playing against the mentees, and (c) the students liked the refreshments. Summarizing the responses for question B: "What I liked least about the program," the comments ranged from (a) not getting enough help when they wanted it, and (b) having to stay after school each week. What became evident was the finding that while a large percentage of the students commented positively regarding the monthly meetings after school, the Likert question revealed 32% didn't feel remaining after school was worth their time. This findings was supported by a frequent response recorded for question B, "What I liked least about the program was staying after." Overall, the student evaluations can be viewed as positive. There were at least 20 students who said that there was "nothing" about the program that they disliked. The best comment, however, is from the student who said, "I liked having someone in my corner."

MENTOR PROGRAM EVALUATION

The mentors (N=54) were asked to evaluate the mentor program on an open ended questionnaire developed by this researcher with assistance of the mentor committee (Appendix

A, p.52). Questions ranged from eliciting comments on the strengths and weaknesses of the program to frustrations, strategies, communication, and gains from the mentorship. The comments were summarized in cluster groupings for each item. Recommendations were listed, and incorporated in the plans for the 1987-88 school year. Each mentor received a list of the recommendations summarized from the mentor evaluation (Appendix B). The 1987-88 Mentor Guide reflected the recommended changes, and additions suggested by the mentors on the mentor evaluation (i.e. calendar with all dates for all forms and meetings; a list of successful strategies tried by mentors in previous years, tightening the underachiever criteria, improved mentor/mentee matching, getting more student commitment at the outset, homework center, etc.). At this time, 12 of the 19 suggestions have been operationalized in the 1987-88 Mentor Program at Glasgow. Mentor committee members are currently making plans to incorporate the remaining 7 suggestions. In summarizing the mentor evaluation, overall the results are extremely positive. The strengths as perceived by mentors on this questionnaire appear to be in the areas of program organization, communication, and rationale. The weaknesses appear to center around the time factor, which was also listed as a frustration for mentors. Mentors appeared to have difficulty arranging weekly meetings with mentees. The last question relates to gains from the mentorship

relationship. On this question, responses ranged from a better understanding of the underachiever and cultural differences in students, the rewards that come from helping the mentee on a one-on-one bases, to observing the mentee grow personally in that relationship, and the development of a special bond between mentor and mentee.

PARENT EVALUATIONS

Pre and post parent evaluation surveys were sent home and data from these surveys were collected and analyzed. Regarding the pre evaluations, 25% of the 100 surveys sent home were returned. An analysis of the surveys indicated parents expressed an interest in improved communication between school and home, help for their child, and a willingness to attend parent meetings (Appendix B). The post parent survey was conducted by a mentor in the Glasgow Mentor Program as part of her Masters thesis. A twenty question, Likert-Scale questionnaire was developed by this masters student and this researcher (Appendix A, p. 54A). Her findings were shared with this researcher and with the mentor staff as well (Appendix B). Of the 100 surveys sent home, 28% were returned. The results of this survey indicated that parents wanted increased communication by telephone, felt their child benefited from the mentor program, and that they understood the "underachieving

student" better as a result of their involvement in the mentor program.

MENTOR PROGRAM PARTICIPATION LEVEL

As part of an accountability measure attached to the Grant, monthly data were collected by a Glasgow counselor on the participation level in the Mentor Program (N=100). These data were collected on the weekly mentor/mentee after school meetings, and did not include the within school mentor/mentee contact times (Appendix A, p. 54A). Data were analyzed by the total number of mentorship meetings, by week, by month, and by quarter. Frequencies were converted to percentages. The results of this analysis are skewed by two factors: (a) 14 of the 54 mentors did not turn in reports regularly, and (b) student transfers were not dropped, rather handled as zeros, along with no shows and cancelled meetings; all of which are reported as "non reports." In all, there were 784 official after school meetings reported for the approximately 100 students in the entire mentor program. Data for the second grading quarter indicated the participation level was at 43.6% with six no reports. For the third grading quarter, the participation level was at 47.53% with six no reports. For the fourth grading quarter, participation level was at 39.41%, with 14 no reports, which included end of school year early

transfers (Appendix B). The findings suggest that the participation levels were lower than expected and varied from quarter to quarter.

THIRD SCHOOL FINDINGS

Additional data from a third school is included for purposes of adding another dimension to the scope of this dissertation. While not part of the original proposal, the guidance director of this school cooperated with this researcher in using the Glasgow Mentor Program Guide as a model for their mentor program. Similar pre and post data were collected and shared with this researcher. The same methodologies and statistical procedures were employed using GPA, SCAMIN, failure rate, and canonical analysis data. Analyses consisted of comparisons made against the control school. The third school, Key Intermediate, is in Area I of Fairfax County, Virginia. Key Intermediate school differs from Glasgow Intermediate in that the minority population is only 15% compared with 49% at Glasgow. Additionally, it was dropped from the Special Needs school list for the 1986-87 school year. During the 1985-86 school year, it ranked 14 out of 22, Glasgow ranking number one.

A special needs school is identified on the basis of four factors: minority enrollment, student mobility,

socioeconomic status, and variability in student achievement. A statistical formula procedure converts data from the factors, a county mean is calculated, and schools are compared using this criteria. For the 1986-87 school year, Glasgow ranked number one as a special needs school. Additionally, mean national percentile SRA scores for Key Intermediate more closely resembled those of the Jackson as compared to Glasgow. The 1986-87 composite score was 76 and the ability score was 78. As reported earlier, Jackson had mean scores of 76 and 73 respectively. Glasgow's scores were 67 and 65 respectively. Total county means were 79 and 79 respectively. The mentor program population for Key Intermediate totaled 34 students, some of whom participated in an overlapping peer counseling program, which is treated the same. The population of underachievers consisted of 14 black students, one Hispanic student, two Asian students, and 17 white students. Key Intermediate used the same criteria as the study school in identifying their underachieving population, with more emphasis on a discrepancy between ability and achievement scores. Therefore, they had more classic underachievers in their mentor program.

Comparing Jackson and Key data on GPA, using post measure as the dependent variable, an analysis of

covariance, using pre GPA and SRA composite scores as covariates produced non-significant results.

Comparing Jackson and Key on self-concept as measured by the SCAMIN, four separate analysis of variance procedures on the four variables that combine to measure self-concept produced the following results reported in Appendix D:

ANOVA on the post achievement need variable produced a p-value of .004, which is below the .05 level of significance (Table 4.1 of Appendix D).

ANOVA on the post achievement investment variable produced a p-value of .224, which is greater than the .05 level of significance (Table 5.1 of Appendix D).

ANOVA on the post role expectation variable produced a p-value of .039, which is below the .05 level of significance (Table 6.1 of Appendix D).

ANOVA on the post self-adequacy variable produced a p-value of .002, which is below the .05 level of significance (Table 7.2 of Appendix D).

On three of the four variables of self-concept, the groups were different at the .05 level of significance. The pre test administration of the SCAMIN to Key students occurred in December of the 1986-87 school year. No regression was observed in comparing raw pre and post SCAMIN scores for this group. In point of fact, the Key data revealed pre raw scores were lower than those of Glasgow on three of the four variables of the SCAMIN; only on achievement investment was the group mean higher on the pre testing for Key.

Comparing Jackson and Key data on number of students failing any classes (numbfail), a t-test produced a p-value of .023, which is below the .05 level of significance (Appendix D, Table 12.1). The table reports 20 student failed 42 classes at Jackson and 9 students failed 11 classes at Key. The findings suggest those students who failed classes, failed more at Jackson. Statistical procedures on the failure variable comparing schools on student retention rates produced non-significant results. However, end of year retention rates revealed 6 students out of 34 students failed at Key, compared to 9 out of 55 at Glasgow and 12 out of 42 at Jackson.

Lastly, a canonical correlation analysis was performed on all three groups: Glasgow, Jackson and Key, in order to explain the relationship among sets of criterion variables and predictor variables (Appendix D, Tables 14.1 and 14.2). For all three groups, the following correlations were indicated:

There was negative moderate correlation between post GPA and number of classes failed (-.6493).

There is a high correlation between SRA GSV composite score and EAS ability score (+.8050). The higher the composite score, the higher the ability.

The first canonical correlation explains with statistical significance the relationship between the two

variable sets, $p=.0164$ (Appendix D, Table 13.1). While the other canonical correlations do not explain with statistical significance, the relationship between the two variable sets can be explained descriptively. Displayed in Table 14.2 of Appendix D, are the canonical correlations which indicate the following:

1. The first canonical correlation overall indicates the higher the GSV (composite score) and pre GPA, the higher the post GPA and the fewer number of classes failed.
2. The second canonical correlation indicates that students from Jackson who had high EAS ability scores and moderately high GSV composite scores filed more often and failed a greater number of classes.
3. The third canonical correlation indicates that overall students with lower GSV composite scores and moderately high pre GPA scores failed fewer classes. We do not know where this is.

Canonical analysis on two schools (Jackson and Key) are reported in Table 14.2 of Appendix D.

Canonical redundancy analysis indicates that the criterion variable can not be predicted by the predictor variables. The findings may be utilized for explanation, not prediction. The findings from this analysis were helpful in explaining relationships.

SUMMARY

One of the purposes of this study was to establish efficacy of a Mentor Program model with intermediate school underachievers. The findings provided by the descriptive summary reported in this chapter served to provide linkage to the empirical findings of this study in relation to the original purpose. Based upon the relevant findings provided by the descriptive summary, which included quantitative and qualitative methodologies, the results of this study were enhanced. Chapter Five will present a discussion of the conclusions and recommendations based upon these findings.

CHAPTER V - SUMMARY, CONCLUSIONS, DISCUSSION,
IMPLICATIONS, RECOMMENDATIONS, AND
RESEARCHER'S COMMENTARY

INTRODUCTION

A summary of this study, conclusions based upon the findings, discussion, implications, and researcher's commentary based upon this study are contained within this chapter.

SUMMARY OF THE STUDY

The search for affective education program models has grown more intense with the increasing focus on the underachiever. A few studies seem to indicate that a Mentor Program has affective consequences, but empirical assessments are lacking. An attempt to operationalize the research findings on affective interventions with intermediate school underachieving students was the mentor model herein described. It was the purpose of this study to conduct an assessment of a Mentor Program on self-concept and achievement of middle school underachievers and to identify the unique problems on assessing such a model. It was expected that the findings would be useful in establishing efficacy of a mentor model, and serve as a

guide to further improve the empirical assessment of future mentor programs.

The study utilized a quasi-experimental nonequivalent control group design. It involved one experimental and one control group from different schools. Since the students were not randomly selected for the study, and the treatment took place at the school level, instead of the student level, the random unit became, technically, the school. Overall effects of the treatment, the mentor program, were tested at the school level. The cognitive and affective performance of students in each group were compared on pre-test/post-test measures. Data were collected analyses were made on achievement and self-concept variables. On three of the four hypotheses, nonsignificant gains were reported in Chapter Four. The findings of the four hypotheses, stated in the null form, are presented in this chapter followed by a discussion drawn from the findings. Recommendations for future practice and further research are drawn from the conclusions, discussion, implications of this study. Conclusions relative to findings for each hypothesis must be viewed in terms of unexpected, unplanned events and outcomes that can be attributed to characteristic school effects. Alternative explanations are offered for each hypothesis. This chapter concludes with a researcher's commentary.

The value added analysis estimated effects of a treatment indirectly through comparing observed effects of the treated group with predicted untreated effects of the group. The predicted untreated effects are found through regression estimates based on relationships of the criterion variable, which is the post-test GPA to group characteristics established in the control or comparison group. It was found that the variables explained 75% of the variance on post-GPA. The results of a t-test analysis comparing the predicted values of each group indicated the means of the predicted values of the control versus experiment groups were equal, $p=.7501$. Results of this analysis indicated that the students reacted to the treatment homogeneously; there was no significant difference between means corrected for the characteristics of the schools. A t-test indicated that the difference between the means was significantly different from zero indicating there was a zero difference, $p=.8373$. There was no treatment difference between populations, as studied in this design. Due to the conditions in which it was applied, the difference in growth, although slight, was not significant. The implications from these results strongly suggest that the study design needs to be re-examined.

SUMMARY OF EMPIRICAL DATA

HYPOTHESIS NUMBER ONE: There is no difference between experimental and control groups on GPA gain, adjusted for initial pre SRA, SRA composite and ability scores.

For hypothesis number one, several explanations are offered for the non-significant gains in academic achievement as measured by grade point average. While it was a fair, reasonable assumption to expect comparable underachiever populations for both groups, a comparison of initial SRA ability and composite scores between groups revealed the differences approached significance, placing the experimental group at a possible disadvantage. Using the pre measure as the dependent variable, ANOVA procedures on initial SRA ability and composite scores produced probability levels of $p=.074$ and $p=.066$ respectively. Mean discrepancy between experimental and control groups in SRA composite growth scale value score (GSV) was approximately 21 points. Mean discrepancy between experimental and control groups in SRA ability growth scale value score (EAS) was approximately 28 points. The April, 1987, Fairfax County Intermediate School SRA scores reported a mean composite score of 67 percentile points and a mean ability score of 65 percentile points for Glasgow. A mean composite score of 76 percentile points and mean ability score of 73

percentile points were reported for Jackson. The County total average was 79 percentile points on composite and 79 percentile points on ability (Appendix B). As it turned out, Jackson contained more average underachievers in the sample compared to a larger percentage of below average underachievers in the Glasgow sample. It makes sense to assume that if you have a higher ability group and you let them go with an intervention, they have a better chance to move faster.

Time is also a factor to consider with underachievers. The research of Pecault, (1979), reveals it takes 6 months to two years to turn an underachieving student around in attitude and academic performance. Furthermore, research revealed a change in attitude precedes a change in grades (Pecault 1979; Rimm, 1984). The findings in this study are consistent with the literature on affective interventions using GPA as a measure of academic growth. Wilson (1986) reported 7 of the 15 studies involving underachievers had positive gains. The importance of follow-up was demonstrated in three investigations in which the researchers reported positive results that were not evident immediately at post treatment. For this study, a follow-up of the 26 students remaining at the experimental school revealed that the group mean GPA at the end of the 1987-88 first quarter grading period was 2.2 (Appendix B). This is

compared to the post study GPA of 2.029 for the experimental group.

A third factor relative to the findings, and probably the most important, was the unexpected discovery that the control group had experienced another treatment that paralleled some of the efforts of the mentor program. This information was uncovered and verified in June of 1987. While no mentoring in the form of a formalized mentor program existed, a career intervention that contained self-concept and achievement objectives was operating under a Minority Students Academic Achievement and Aspirations Grant. This took the form of a series of career preparation activities, counselor-student meetings and monitoring of grades, and community tutors for some of the control subjects. Hence, the control group was contaminated. Two speculations are offered for this intervening variable: (a) There was an unclear understanding by the control school contact person as to what a control group meant in terms of no intervention or treatment, and (b) the desire to provide an intervention to an identified group of underachievers was a response to the mandate to address minority achievement in Fairfax County Public Schools. As it turned out, it was not a pure control group because of the dedication of the staff to the underachiever and to the County mission. Rather than having a control group, some variation on mentoring out of

natural concern existed for the students. It is very difficult in a public school setting to leave students with no support at all. The implications are that this factor created compounding effects on the achievement data, rendering somewhat inconclusive results from the data analyses.

This leads to the fourth factor to consider relative to the GPA findings. A pattern at Glasgow revealed that the second quarter grades have been consistently lower than the first quarter grades. This school effects phenomena was confirmed by observations and records kept by the guidance director (P. Hickey, personal communication, June 25, 1987). The second quarter grade drop is attributed to several factors: (a) First quarter is a review period at the experimental school, (b) new material is covered the second quarter, which includes an additional academic health unit in physical education classes, and (c) the enthusiasm accompanying the beginning of school generally subsides during the second quarter. Second grading period is seen as a "rude awakening" to students.

A fifth factor relating to school level effects was the abnormal pattern of grade assignment by a specific teacher of mathematics. Of the 43 students who failed (retentions) the entire school year at Glasgow, 15 of these students were

assigned final F grades by a single teacher. Of those 15 who failed, 4 students were in the experimental group. Of the 55 students in the experimental group 13 had this teacher for math, which most likely affected GPA. This is based on the fact that this single teacher assigned Ds and Fs to 80% of his students the fourth grading quarter with only one student of 103 students earning an A. This type of school effects factor not only influenced the fourth quarter GPA, but the failure rate as well for the mentee population. A careful examination of records and data revealed no comparable anomaly at the control school.

HYPOTHESIS NUMBER TWO: There is no difference between experimental and control groups on self-concept, as measured by a comparison of pre and post SCAMIN scores on each of the four variables measuring self-concept.

For Hypothesis number two, several alternative explanations are offered. First, overall scores were higher on the pre test than the post test for both experimental and control groups. On the four major variables, the experimental group started out higher than the control group on three of the variables. The initial experimental group scores were higher for the 1986-87 pilot pre-study group. According to Milchus (1987), when you start off high, it is more difficult to obtain growth on the SCAMIN. In a

predictive sense, it suggests that students did, in fact, feel good about school at the outset. As the principal of Glasgow stated, "They jumped out at the starting gate" (Johnson, 1986). Students were ready to achieve, and the first quarter grades correlate with their positive self-report on the pre SCAMIN test. This finding supports the research by J. Jones, (1970), regarding self-perception being an accurate predictor of academic achievement as measured by GPA.

On the SCAMIN post test the regression can be explained by several factors. Administration of the pre test occurred six weeks earlier than during the pilot pre-study. Hence, the "aura" of the beginning of school still existed. The experimental students were identified at interim time, four weeks into the new school year. They were then matched with a mentor, and administered the SCAMIN. More simply stated, the "honeymoon period" was still in effect, coupled with the general atmosphere of enthusiasm and excitement in a new school year.

A second factor was the high expectations of the mentor program that existed in the school from the overall good feelings and successes of the pilot pre study. The program reputation preceded the experimental group. Some mentees

were unofficially assigned to mentors before the program started.

A third factor affecting outcomes on the SCAMIN was the test-retest practice effect or Hawthorne Effect. First year and second year mentees at the experimental school were administered the pre test together in one sitting. A certain observable bravado existed on the part of these two year students, which may have influenced the testing performance of the experimental group.

A fourth factor relating to post self-reports was the anxiety factor relating to fourth quarter failure, previously discussed in hypothesis number one. In Fairfax County Public Schools, if a student fails English or Math on the final grade report, he/she fails for the school year. Considering the fourth quarter teacher and school effects, self-concepts may have decreased on self-reports, as the reality of the situation was perceived by mentees in the form of anxiety and other self-concept variables. Overall, both schools experienced regression; the control school experiencing a greater regression than the experimental school. A summary discussion of the four sub-hypothesis findings are presented in the following discussion:

THE FIRST SUB-HYPOTHESIS: There is no difference between experimental and control groups on pre and post achievement needs variable.

The first factor, achievement needs, is the positive regard with which a student perceives the intrinsic and extrinsic rewards of learning and performing in school. On this factor, the tests of significance produced a probability level of $p=.059$, approaching the .05 level of significance (Table 8). Separate t-tests procedures were performed within groups on achievement needs comparing pre testing to post testing gains. Displayed in Tables 8.2 and 8.3 of Appendix D are the analyses for the experimental and control groups which produced differences in p-values ($p=.155$ vs. $p=.043$). While no significant regression was reported in the experimental group, the greater regression observed in the control group may have contributed to the between group difference that approached significance. The fact that the regression factor for the experimental group was not sufficient enough to suffer any significant loss on this variable can be regarded as positive. This is one of two factors combined to make up the element of motivation on the SCAMIN.

THE SECOND SUB-HYPOTHESIS: There is no difference between experimental and control groups on pre and post achievement investment variable.

The second factor that combines to make up motivation is achievement investment. Achievement investment (formerly labeled failure avoidance) is the awareness and concern toward shunning the embarrassment and sanctions which are associated with failure in school. When achievement investment is extremely high without support from the self-concept, realistic avoidance becomes anxious fear. Anxious fear of failure anxiety stifles achievement (Milchus, 1968).

On the achievement investment variable, the control group scores were initially higher than experimental group scores. Separate t-test procedures performed on gain scores for pre and post tests within groups produced a difference between the groups on the regression factor. The t-test procedures on experimental and control groups produced p-values of ($p=.017$ vs. $p=.230$ respectively). These findings suggest that there was a significant drop in failure anxiety for the experimental group and not for the control group on achievement investment. The significant reduction in failure anxiety can be viewed as positive, as long as it remains in the moderate range. The findings suggest that while individual experimental students may be worried about

failing at post testing, overall raw scores suggest the experimental group did not increase in failure anxiety on this variable (Appendix D, Table 8.2). Perhaps the failure concern was reflected in the regression data on the role expectations or self-adequacy variables.

It appears that experimental students were less anxious than control students as reported on this reported on this variable at pre testing. Could the assignment of a mentor at the outset of the study have contributed to a lower initial score for the experimental group (i.e. they were less concerned about failure now that they had a mentor to help them)? It is possible to speculate that this matching process affected the pre testing data, as experimental students were identified, applications were accepted, and mentors were assigned prior to the week of the SCAMIN administration. The speculation is that perhaps these experimental students remained somewhat relaxed with regard to this variable. This is substantiated by the within group and between group post testing scores (Table 8; Appendix D, Tables 8.1, 8.2).

THE THIRD SUB-HYPOTHESIS: There is no difference between experimental and control groups on pre and post role expectations variable.

The third sub-hypothesis regarding role expectations refers to the positive acceptance of the aspirations and demands that the student thinks others--significant others--expect of him. The findings suggest there is no difference between groups on this variable. While the raw scores reflect regression for both groups, the t-test procedure produced a p-value of .041 on the gain scores for the experimental group, which is significant at the .05 level of significance. This indicates that there was a difference from pre to post on this variable (Appendix D, Table 8.3). No significant difference was found for the control group, $p=.155$. The findings suggest the experimental students felt that "significant others" were expecting too much or perhaps this was a reflection of failure anxiety. Looking at it from another perspective, mentors are, by nature, less judgmental. One of the objectives of the mentorship is the transference of the adult relationship to teachers. This could include adult and teacher expectations. Maybe through this mentorship relationship, mentees became less concerned about what others think of them, as they acquired more honest appraisals of themselves. Raw scores on the role expectations variable indicated the experimental group viewed the aspirations and demands others placed on him/her more positively than the control group, but not significantly different.

THE FOURTH SUB-HYPOTHESIS: There is no difference between experimental and control groups on pre and post self-adequacy variable.

Self-adequacy is the positive regard with which a student views his present and future probabilities of success. On this variable, the findings indicate there is a difference between groups, at the .05 level of significance on self-adequacy, ($p=.014$) (Tables 7 and 8). Although both groups regressed on this variable, the control group experienced a greater regression than the experimental group from pre to post testing. Conclusions based on findings regarding the difference between the groups on the post measure suggest that the mentor program had some perceptible effect on self-adequacy on between groups analyses. On the post test, students in the experimental group viewed their present and future probabilities of success more positively than students in the control group. A review of separate experimental and group gains from pre and post resulting from t-test analyses, produced no significant differences within groups.

Several explanations were offered in an interview with Dr. Milchus, the SCAMIN author (N. Milchus, personal communication, August 17, 1987). He explained that when there is individual counseling and introspection in the form

of self-evaluation, a student is more inclined to be less defensive. He speculated: "The high pre test SCAMIN scores are more of a reflection of the 'aura' of the new school year, rather than the realistic appraisal of potentially failing." The post test for the experimental group revealed less extreme scores, which can be viewed as a positive sign. The lopping off of extreme scores, as reflected in the standard deviation, may indicate the students are dealing with reality on the post testing. Milchus (1987) is suspicious of extreme scores. He explained that self-concepts may go down before they go up because a student may be harder on himself as bravados are penetrated. Defense mechanisms decrease and the student assumes a more realistic view of himself. (Milchus, Farrah, Reitz, 1968, p. 7). Overall, the findings suggest more mature responses on the post testing.

HYPOTHESIS NUMBER THREE: There is no difference between experimental and control groups on failure rate as measured by end of year failure rates.

Three variables of interest relating to failure were tested. On all three variables, student failure (retention), number of students failing one to six classes, and number of students failing any class. Even though the experimental group experienced less student retention (16%

vs. 29%), less classes failed by students who failed any class (13% vs, 6%), and less failed by students, (1.4 vs. 2.1), the findings indicate the differences for each of the variables of interest were not significant ($p=.05$). However, the fact that the experimental students experienced a reduction in failure that impacted the overall school failure rate is of practical significance, since these were the students who were identified as failing academic subjects and who were at risk of failing for the school year (Johnson, 1986).

HYPOTHESIS NUMBER FOUR: There is no relationship between the predictor (independent) measures and the criterion (dependent) measures.

The results of canonical correlation analyses indicated that the first canonical correlation explains with statistical significance the relationship between two variable sets, ($p=.0240$). The findings indicated students with high pre GPAs and moderate composite scores failed fewer classes. While the second and third canonical correlations were not statistically significant, they do help to define the populations, and are consistent with the data analyses previously reported.

Specifically, group means calculated on initial composite scores of students in both groups revealed the Jackson students had higher EAS (ability) scores than Glasgow students in the study (407 vs. 378). Of interest is the description set forth in the third canonical correlation; that students with lower EAS (ability) and lower GSV (composite) scores did not fail classes. This makes sense if one considers that Glasgow students (N=55) initially had overall lower ability and composite scores and failed fewer classes than the Jackson students (N=42). The implications generated from these findings suggest that the mentor program may have reduced the failure rate for these students and for those students who had high ability and moderate composite scores. In addition, the implications of these findings suggest that the mentor program may have had an impact on post GPA and on reducing the potential for failure on experimental students who had high initial GPAs and moderate composite scores. However, canonical redundancy analysis indicates the criterion variables cannot be predicted by the predictor variables.

CONCLUSIONS

The following conclusions relative to the findings were drawn from this research study:

Conclusions Relative to Hypothesis Number One

The findings of the study with regard to the first hypothesis, employing empirical analyses of the cognitive measure of achievement using GPA, were not inconsistent with the sparse research on assessment studies with affective interventions. While only a few studies reported empirical gains, others experienced qualitative gains. Because GPA is a widely-used base measure of academic student performance, and because of positive results in the pilot pre-study, this measure was chosen as a variable in this study. It was expected that underachieving students left alone might get worse or, at best, stay the same. The contamination of the control group almost nullified this comparison and contributed to inconclusive analyses. The fact that the experimental group made greater gains in GPA (13% vs. 6%) is positive.

The discussions and implications regarding the findings offer several alternative explanations to the nonsignificant gains. Conclusions generated from this analysis center around four factors: (a) The difference in the ability level of underachievers at both schools may have been a negative factor affecting treatment effects on GPA growth (experimental students were initially lower in all predictor variables; GPA, ability and composite scores); (b) time

(duration of study) of treatment may have been a negative factor on significantly improving GPA; more time was needed to effect an increase in GPA; (c) control group contamination skewed results, making the analyses somewhat inconclusive; measurement of two treatments instead on one, and (d) school level effects, such as teacher effects, may have negatively impacted GPA growth; specifically the fourth quarter grade report, which would have an impact on GPA and failure rate. In spite of these implications and conclusions, the mentor program produced positive achievement gains, as measure by GPA growth, that were non-significant. Although slight, there is a hint that the treatment was beneficial.

Conclusions Relative To Hypothesis Number Two

The findings of the study regarding the second hypothesis empirically measuring the affective domain of self-concept through the use of pre test/post-test administration of the SCAMIN were not surprising when the high pretest scores were analyzed. The discussion and implications regarding SCAMIN performance. Several alternative explanations were offered for the nonsignificant gains. The following implications and conclusions were generated:

1. High initial pre test self-concept scores may not have been a realistic appraisal of student failure, and could be viewed with skepticism (Milchus, 1987). In addition, inflated scores on the pre test make post test growth more difficult.
2. Beginning of school effects may have interfered with a realistic self-appraisal on the pre test. The "aura" of beginning of school effects may have affected the pre testing. The administration of the pre test may have taken place too early in the school year before this effect had worn off.
3. High program expectations may have influenced pre and post testing. The program's reputation preceded the study, and
4. More mature, honest responses may have been reflected in the post scores as a result of the group guidance sessions and self-evaluations of the mentees throughout the treatment.

In this regard, it makes sense that a student's self-concept might go down before it goes up, as introspection and self-assessment forces a more realistic self-concept of ability self-appraisal. Dr. Milchus (1987) offered this description of the SCAMIN findings: "The scores look like the morning after...I thought I was pretty good." He referred to this as the John Henry Effect.

Conclusions Relative To Hypothesis Number Three

The findings with regard to the third hypothesis empirically measuring failure rates have generated the following implications conclusions, which are viewed in a larger perspective. Compared to students in the 1985 pilot

pre-study, students in the mentor program continued to improve their failure rate. In the 1985-86 program, 25% of the mentees (N=80) failed compared to 16% of the mentees (N=100) in the 1986-87 program, a reduction of 36%. In the Ellen Glasgow Intermediate School Evaluation Report for 1986-87, the principal reported, "As in 1986, the end-of-year failure data suggest a positive impact of the mentor program on the 'F variable,' which includes overall school failures. Not only has it contributed to fewer Fs, but it has also contributed to the reduction in failure from 5.8% in 1986 to 5.0% in 1987. Longitudinally, the mentor program has contributed significantly to a reduction in the school's failure rate from 7.2% in 1985 to 5.0% in 1987" (Johnson, 1987, p. 2).

Displayed in Appendix B are the school wide failure rates for Glasgow and Jackson Intermediate schools along with Fairfax County retention rates. The implication is that the treatment, while not producing statistical significance, did, in fact, produce practical significance. Johnston, Markle and Means (1981) suggest that it is not statistical significance but "practical significance" that is important to practitioners (p. 2).

Conclusions Relative To Hypothesis Number Four

The conclusions drawn from the discussions relating to the fourth hypothesis have helped to define and explain which students in the sample were affected by the treatment. It appears that initial GPAs and composite scores had the most influence on predicting GPA growth and reducing failure rate. However, canonical redundancy analysis indicates that the criterion variable can not be predicted by the predictor variables for future studies. The findings may be utilized for explanation, but not for prediction. This analysis was helpful in further speculating on treatment effects, and in making recommendations with regard to the importance of streamlining the criteria used in the identification process for underachievers.

Based upon empirical research findings regarding the four hypotheses, it was concluded that the mentor program produced positive, nonsignificant gains at the experimental school; results which are better than those of the control school, but not significantly better.

DESCRIPTIVE SUMMARY CONCLUSIONS

The conclusions drawn from the quantitative and qualitative analyses are mutually reinforcing. Chapter Four

reported the findings obtained from the descriptive data, which included the data analyses obtained from the following: (a) Mentor Program teacher rated self concept scales, mentor, student and parent evaluations, and program participation levels; (b) two year mentee assessments on achievement and self concept measures; and (c) the third school assessments on achievement, self concept and failure rates. While Mentor Program evaluation and the two year mentee data analyses were an integral part of this study from the outset, the third school relevant data was uncovered in the investigation's course. Conclusions regarding the quantitative and qualitative analyses, followed by recommendations based upon these conclusions are contained within the following pages.

Conclusions Relative To Self Concept Rating Scale

The positive, significant results from the teacher rated Self Concept Scale supports the research by Brophy (1974) regarding accuracy of teacher observations on student self-concept and predictive ability of academic achievement. The conclusions regarding the variable of self-concept in this study supports the findings in an evaluation study by Valenzuela-Smith, (1983) on Junior High Latino students. In this study, while students showed no measurable self-concept

gains, teacher's behavioral ratings reflected a positive correlation between attitude and report cards grades.

Conclusions Relative to Two Year Mentees

The conclusions drawn from the two year mentor program analyses supports the literature on longitudinal studies with mentoring programs with underachieving students (Obler, Francis, Wishengrad, 1977). In this study, underachieving high school seniors were moved on to college and placed in a teach/mentor/counselor program. Students were compared against a control group over a five term period. Fluctuations were noted in GPAs in the third term, however, by the fifth term, GPA increased. Recommendations are for future studies of this nature to cover a two year period, with follow-up.

The conclusions drawn regarding the SCAMIN data on the two year and Key Intermediate students suggest time is a factor in stabilizing self-concepts and that the beginning of school is not necessarily a good time to get a true measure of self concept. Rather than a realistic appraisal of failing, positive feelings are probably confounded by the "aura" of the new school year. This conclusion is supported by an interview with Milchus, (1987).

Conclusions Relative to Mentor Program Student Evaluations

Conclusions drawn from the student evaluations in this study are consistent with the research on formal mentoring programs at most levels (Boston, 1976; Torrance, 1984; Oestereicher, 1985). A dominant reoccurring theme both in the literature and supported in this study was the student's perception that somebody cared. Additionally, students would recommend a mentor program to others. Clearly, participation levels of mentees and mentors were lower than expected. Reported participation levels by mentor and by students were fairly consistent on separate data. Students reported after school participation at 55%, mentors reported 44% afterschool participation. The difference can be attributed to missing reports and "no reports" included in the data collection totals.

Conclusions Relative to Mentor Evaluations

The conclusions drawn from the positive mentor evaluations in this study support the research on mentoring by Melia (1980) and Kram (1983). Not only does the mentor help to shape the development and growth of the protege or mentee, but there are mutual gains from a mentorship. Mentors and mentees both derive benefits from the

mentorship. For the mentor, it was the satisfaction of helping someone grow as they got to know students on a more personal level. For the mentee, it was a sense of support by someone who cared, and a feeling of greater involvement in the school through the monthly activities. A serendipitous outcome of this study was professional growth in terms of the mentor better understanding the underachieving student and learning strategies to deal with failing students. These conclusions support the findings of a study by Alleman, Cochran, Doverspike and Newman (1984), which suggests that mentoring is a behavioral phenomenon, not dependent on personality traits. The difference in mentors and nonmentors was found in what they did, not who they were. The evidence presented in this study on this variable suggests that mentoring skills can be learned.

Conclusions Relative to Parent Evaluations

The conclusions and regarding parent surveys clearly indicate more parent involvement is needed. Recommendations are for future studies involving increased parent participation. This was one of the weaker links of the study.

DESCRIPTIVE SUMMARY RECOMMENDATIONS

Conclusions relating to descriptive data have allowed this researcher to make the following recommendations. Recommendations based upon conclusions from descriptive, qualitative findings and speculations are linked with empirical data when appropriate to add to the scope and breadth of the investigation's findings. Recommendations for future practice and further studies are included:

Recommendations For Self Concept Assessment

Recommendations regarding qualitative teacher rated self-concept measures include the use of such a measure on the control school for comparison purposes. The additional use of this kind of instrument adds to the battery of assessments and provides a different perspective on student self-concept, as evidenced in the classroom. The use of mentors rating their perceptions of mentee's attitude and ability on a pre/post ten item Likert type questionnaire is supported in the literature in a study of high school underachievers by Turkel and Abramson (1986).

RECOMMENDATIONS FOR FUTURE RESEARCH

Recommendations For Future Study Designs
and Investigative Procedures

Recommendations based upon the findings from this study regarding pre self-concept administration attests to the preference of a December pre testing in an attempt to control for the beginning of school effects. Both the two year students and the Key Intermediate students were administered a pre SCAMIN in December and scores were more realistic for both groups compared to the experimental group. Based upon the results of the two year and third school data analyses, future study designs should include a minimum of three experimental and three control schools to control for school effects.

Recommendations For Practice and Further Research

Recommendations for an increased level of participation merit consideration in future program planning. A relationship to look at in future studies would be the link between quarterly GPA's and participation levels. Furthermore, recommendations regarding the value of the mentor relationship on the part of the mentee can not be undermined by the lack of statistical significance on any

quantitative measure. This outcome supports the adult development literature on mentoring (Daloz, 1983, 1986; Merriam, 1983).

Recommendations for inservices on mentoring strategies for underachieving students as part of staff development is encouraged as a result of the mentor evaluations. Additionally, the mentors have an ownership in the program when they can make suggestions for improvement and they are acted upon.

RESEARCHER'S COMMENTARY

The assessment measures provided quantitative data which showed that the mentor program did not make a significant difference when two schools were compared. When the additional data from a two-year group and a third school were added, statistical data from a two-year group and a third school were added, statistical differences were noted in several of the analyses, which showed the mentor program did make a difference. When qualitative data in the form of ethnographic information were added, program evaluation revealed the mentor program did make a positive impact on the experimental school.

Had there been tighter controls over the control school, a more comprehensive study design to control for school effects; three experimental and three control schools, the use of an achievement measure that uses something in addition to or instead of GPA, a December pre test SCAMIN administration to control for beginning of school effects, and a greater commitment on the part of the mentors and mentees at the outset of the program, speculation is that the achievement and self-concept measures might have been statistically different between experimental and control groups.

The populations in this study were somewhat different in ability and achievement levels for the two groups. It is recommended that future studies focus on refining the underachiever criteria using a discrepancy formula. Low achievers and underachievers could be identified and separated out in the analyses.

The canonical analysis indicated that students who had a high pre GPA and moderate to high SRA composite scores failed fewer classes and had a higher post GPA. In contrast, students with lower ability and composite scores did not fail many classes, but a high post Gpa was not an outcome. Rather their GPA's remained about the same. It is this researcher's speculation that based on this analyses

and a cursory look at individual pre and post GPAs in both experimental and control schools, pre GPA scores were an important factor in potential for GPA growth. Considering the wide F range numerically (0-63), failing students are at a disadvantage at GPA growth. They could be improving from a 50% to 60% and not effect a grade change, whereas another student could improve from an 80% to 90%, effecting a grade change from C to B, thereby effecting a change in GPA. It takes a lot of high grades to increase a GPA. GPA is a cumulative average. To change GPA in one year is much harder than changing achievement. Mentor Program students who started out with low GPA's, with low ability and composite scores did not make much GPA progress. Whereas, students with high pre GPA's and moderate to high ability and composite scores had higher post GPA's.

To control for ability and pre GPA differences, achievement measures should include pre and post composite scores on a standardized achievement test. Findings of this study revealed near significance on SRA composite score differences between groups. Achievement as measured on a continuum adds another dimension to the cognitive measurement and can better control for ability differences in the underachieving population.

One argument against experimental methods in educational research in the social sciences is that control is possible in only very limited degrees where human beings are concerned (Sax, 1968). To the extent that this researcher could not control for the extraneous variables at the control school, one could argue that the data were inconclusive. In effect, there were two treatments going on. There is a small chance that the treatment provided cognitive gains. There is a growth factor associated with GPA. However, under the experimental conditions that it was applied, the difference in growth, although slightly different, was notable.

Although there were hints of the treatment being beneficial, the treatment did not have an adequate positive effect that one could argue to use it from the empirical data. However, bringing in the additional data on the two year students and the third school, coupled with the positive qualitative data on the experimental school makes a case for future studies of this type with recommended changes. There was enough of a gain to warrant replication of this study under a multiple schools randomized design. The two year data and third school data substantiate this recommendation. Under a multiple schools design the treatment might result in statistical significance on similar measures of achievement and self-concept.

Therefore, it is recommended that another study collecting similar data within a two year period to determine changes that occurred over time be conducted. The design error in this study; that technically N=1 rather than N=97, was discovered after the fact.

A dearth of assessment studies involving mentoring programs at the intermediate level, plus inconsistencies with studies using achievement and self-concept measures with affective interventions on underachievers, and the recommendations for designs that include experimental and control groups in the literature, provide strong implications for further well-designed studies involving mentoring programs with underachievers. The state of the art is such that mentoring programs for underachievers in the public school currently exist in the states of Virginia, Maryland, Minnesota, New York, California, and others. The development of these programs has created a need for future assessment studies. The need becomes greater as affective programs strive to maximize the benefits for the individual so that all students, majority and minority, have the opportunity to perform academically at higher levels.

As a preventative and alternative approach for special education, this kind of alternative service delivery model is recommended in the literature for students who need extra

services to succeed in school but who do not qualify for special education services. While no hard data exist, it was felt by the school psychologist at Glasgow Intermediate that the number of new behavioral referrals to the local screening committee has been reduced since implementation of the mentor program. Questions for subsequent studies are:

1. Do programs of this type reduce the number of completed new referrals to special education local screening committees?
2. How can staff development be measured through participation in a mentor program which brings regular education and special education teachers together in discovering strategies for dealing with underachieving students?
3. What are the longitudinal effects of mentor program participation for the mentee?

This one-year study on the efficacy of a mentor program on underachievers does not suggest that the model is inappropriate for intermediate students. It does, however, reveal the difficulties and problems inherent in assessment of affective education programs on underachievers in the public setting. The findings and conclusions drawn from this study have been useful for program evaluation and have served as a guide to further improve the empirical assessment of future mentor programs.

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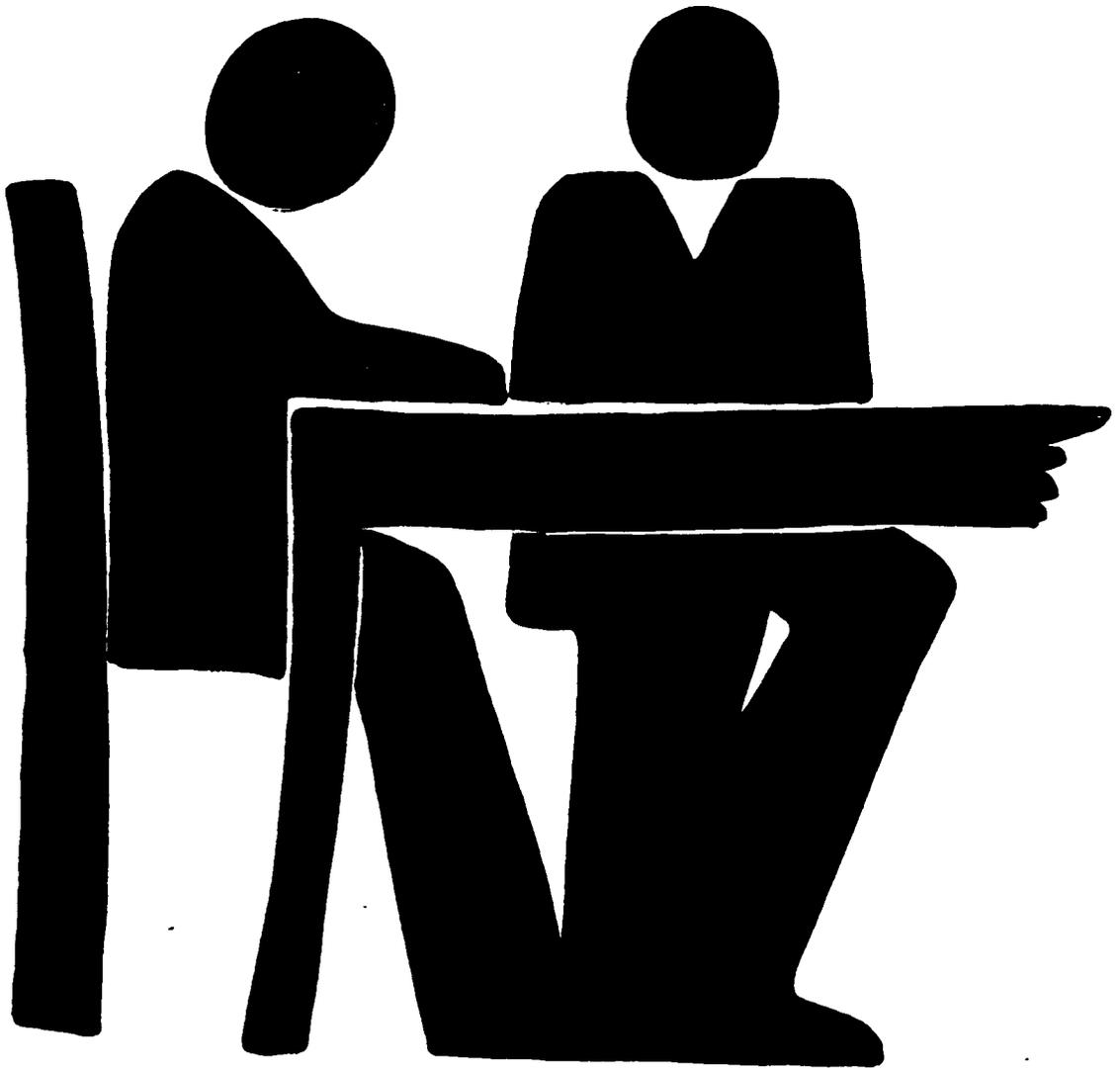
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APPENDIX A
MENTOR GUIDE



**MENTOR PROGRAM GUIDE
GLASGOW INTERMEDIATE SCHOOL**

"Individuals learn who they are from the way they are treated by the other important people in their lives...sometimes called 'significant others'. If an individual is to have a strong self-concept, he needs love, respect and acceptance from significant others in his/her life."

Author unknown

INTRODUCTION

The Mentor Guide has been prepared as part of an effort to provide minimal guidelines for helping the underachieving students at Glasgow Intermediate. The Guide is divided into six sections; a program discussion followed by five phases. The first section of the Guide, Program Rationale, includes background, program design, definitions, goals and objectives and suggested work plans. The Activities Sections comprise Phases I and II and Reference Sections comprise Phases III, IV and V.

The second section, Phase I, Getting Started, includes warm-up and relation-building activities. The third section, Phase II, Monitoring, includes activities to provide some ideas for structure and accountability. (A Resource Bank kept in the library contains extended activities for your reference). The fourth section, Phase III, Communications, is for your information and update. The fifth section, Phase IV, Evaluation, contains program evaluation surveys and assessments. The sixth section, Phase V, Research, includes related journal articles and current research.

The purpose of this guide is two-fold: As a pre-service training model and as an on-going reference for mentors. It is reviewed and revised annually by the Mentor Guide Committee. While the guide serves as a basis for operating, the range of "mentoring" may vary with each individual volunteer mentor.



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ELLEN GLASGOW INTERMEDIATE SCHOOL
FAIRFAX COUNTY
ALEXANDRIA, VIRGINIA

- POPULATION:** Seventh and eighth grade underachieving intermediate students; majority and minority.
- PROGRAM OBJECTIVES:**
- Foster development of a helping relationship between student and mentor that may become the basis for aiding students to deal more effectively with academic expectations.
 - Develop strategies for improving individual academic performance of underachievers.
 - Develop a positive working relationship with the underachiever and his/her parents through improved communication and increased parental involvement.
 - Improve underachievers' perceptions of themselves as learners.
 - Provide inservice for staff development to mentors, enabling them to be effective educational advisors to underachievers.
- PROGRAM ORGANIZATION:** The Guidance department administers this program with the full support of the administrative staff. One counselor is designated as the program manager. The Guidance department serves as a resource to the mentor team.
- MENTORS:** Volunteer teachers and educators in the building serve as Mentors to underachieving students (mentees) on a ratio that varies from one to one to one to three. Their commitment includes:
- Attending four mentor inservices
 - Monitoring of mentee's academic progress
 - Acting as a liaison between home and school
 - Serving as an "advocate/significant other" to the underachieving student
 - Building student's self-concept as a learner
- MENTEES:** All underachieving students - majority and minority, are eligible for participation. Students are identified through the D,F list that is produced at progress report time (4½ weeks into new school year) and through teacher and counselor referrals. An underachievement profile of behaviors is used to assist in the identification process.
- FREQUENCY OF CONTACT:** Mentors and mentees meet daily in homeroom for a 10-15 min. period for the purpose of an "affect" check. Individual weekly meetings are scheduled on a regular basis for educational advisement and academic support. A minimum of two parent conferences are initiated by the mentor. Four "parent education" meetings are arranged through guidance. Mentees participate in six group study skills sessions which are planned and lead by guidance personnel.

MENTOR PROGRAM

(Educational Advisement)

Introduction

The roots of this program lie in suggestions emanating from the Minority Achievement Committee, as an approach to be applied to the problem of underachievement by all students, not just minority underachievers. It is felt that "educational advisement" might serve as a powerful way to enable teacher and student to develop strategies for improving academic performance.

Program Goal

Uniquely, each mentor strives to improve the academic performance of the student by acting as an intervener in the educational process.

Role Definition

In educational matters, a mentor advises and assists students in developing strategies for improving academic performance on a continual basis. Acting as "an advocate or guardian" to the underachieving student, a mentor strives to develop a positive working relationship with the underachiever and his/her parents.

Plans for Getting Started

By the end of the first four weeks of the first quarter of the ensuing school year, underachieving students who need a mentor will be identified, followed by student and parent orientations to the program. Teachers willing to volunteer meet to select one to three students, who will be assigned to their homerooms as needed. Mentors will develop their own flexible work plans to meet with their advisees. Conferences and mini-contacts are encouraged for goal-setting and close monitoring of academic progress. A "How To" packet (the Mentor Guide) will be provided by Guidance for initial "start-up" of program. Mentors are encouraged to give input and add to a Mentor Guide for educational advisement. Pre-service to mentors in August and on-going in-services will be provided by the Guidance Department. Revision of the Mentor Guide will be completed annually by a Mentor Guide review committee.

Philosophical Statement

An important objective of this program is to learn about the academic needs of the underachiever other than by "normal" classroom contact. The Mentor Program taps the academic expertise of a teacher by providing a forum for helping a student feel better about himself as a learner. Therefore, it resembles an affective-cognitive model. It should be viewed in terms of a "teacher helper" concept, distinct from a counseling concept. Participants must be willing to accept this assignment as an "add-on." It shouldn't detract from, nor take away from, what they are already doing. This same kind of commitment will be undertaken by the guidance staff, who accept leadership for this program.

Evaluation

Mentors and guidance staff will meet periodically to evaluate program needs and student progress. Formal evaluations of program participants will occur annually.

Measurement

First quarter and final GPA's will be compared and a pre and post self-concept survey will be administered for group comparison.

ELLEN GLASGOW INTERMEDIATE SCHOOL

MENTOR PROGRAM

(Educational Advisement)

NEEDS ASSESSMENT

Glasgow serves a student population of approximately 830 seventh and eighth graders. Forty-nine percent of the student population is classified as minority. The school offers ESL, GT (Center and Local), LDR, LDSC and Chapter I Compensatory Education. The 1985 SRA scores revealed that reading scores of Blacks, Hispanics and Asians average approximately 25%ile points below Whites. Similar discrepancies exist in Language Arts scores between Blacks and other student populations at Ellen Glasgow. Overall failure for 7th and 8th graders at the end of the 1985-86 school year was 5.8%. This represents a 1.4% improvement over the 1984-85 failure rate of 7.2%. End of year 1985-86 failures were: Whites 5.7%, Blacks 9.9%, Hispanics 11.8% and Asians 1.4%. While the failure rate improved during the 1985-86 school year, the need to address the underachiever still exists.

The Mentor Program is designed to give personal attention to the academic improvement of pupils with D's and F's. The current Ellen Glasgow Intermediate School Mentor Program has, as its objective, the early identification of and personal remediation for the underachieving student. The school's guidance department developed this support system intervention for underachievers, majority and minority students. If successful, failure rates should continue to be reduced, and the transition from elementary to intermediate simplified, and intermediate to high school simplified.

BACKGROUND INFORMATION

The roots of this program lie in suggestions emanating from the Minority Achievement Committee as an approach to be applied to the problem of underachievement by all students, including minority underachievers. It is felt that "educational advisement" might serve as a powerful way to enable teacher and student to

Mentor Program (cont'd)

develop strategies for improving academic performance. The Mentor Program is designed to give Ellen Glasgow Intermediate School students a support system that will help underachievers develop more positive attitudes about themselves as learners and improve their academic achievement. Uniquely, each mentor strives to improve the academic performance of the student by acting as an intervenor in the educational process. Participants in the program will be given an opportunity to have a one-to-one relationship with a responsible, caring adult who will serve as an "advocate" or "guardian" to the underachieving student. It should be viewed in terms of a "teacher helper" concept, distinct from a counseling concept.

RATIONALE

The Glasgow Mentor Program has been highlighted since the 1985-86 school year as one of the activities planned for improving the academic aspirations and achievements of minority students in the Annual Operating Plan for the 1986-87 school year. The attempt is to:

- Identify all failures and potential failures
- Catch students who are falling through the cracks
- Reduce the failure rate and improve grade distribution
- Provide a smoother transition from elementary to intermediate school and from intermediate to high school through adult personal support
- Recognize the self-concept and achievement relationship
- Address the needs of all underachieving students as recommended by the Minority Achievement Committee
- Serve as a preventative or alternative to special education placement.

Mentor Program (cont'd)

PROGRAM GOAL

Underachievers will be provided an opportunity to overcome deficiencies in all subjects, improve study skills, time management skills, and test-taking skills, and develop self-confidence as learners through participation in the Mentor Program, resulting in overall academic and personal growth.

PROGRAM OBJECTIVES

The following is a summary of Program Objectives:

- Foster development of a helping relationship between student and Mentor that may become the basis for aiding students to deal more effectively with academic expectations.
- Develop strategies for improving individual academic performance of underachievers.
- Develop a positive working relationship with the underachiever and his/her parents through improved communication and increased parental involvement.
- Improve underachievers' perceptions of themselves as learners.
- Provide inservices for staff development to mentors, enabling them to be effective educational advisors to underachievers.

MENTOR ROLE DEFINITION

The role of the mentor is that of educational advisor and facilitator. A mentor acts as an "advocate/guardian" to the underachieving student, striving to develop a positive working relationship that will be of a warm and caring nature. In educational matters, a mentor advises and assists students in

Mentor Program (cont'd)

developing strategies for improving academic performance on a continual basis. In matters of personal growth, a mentor will work with the guidance department in promoting an improved self-concept of ability. A mentor monitors student's progress and develops positive communication with the student's parents, enabling their involvement and support in the student's academic growth. A mentor strives to give the message to the students that they have someone here at school, in addition to their teachers, counselors and administrators, who wants and expects them to be the best they can be.

PROGRAM DESIGN

This program is designed to cover three quarters of each academic school year. The first quarter will be used to identify underachieving students in the seventh and eighth grade, and to assign student participants to a mentor. In order to simplify scheduling, mentors will select advisees on one of the following bases:

- They are presently in their homeroom
- They are presently in one of their classes
- The student is one with whom the mentor particularly desires to work

The remainder of the academic year will be devoted to building the interpersonal relationship toward meeting the goals and objectives previously stated. Staff development and on-going program evaluation will be provided through periodic inservices. The Mentor Guide will serve as a basic guideline for mentors to follow. Mentors are encouraged to give input to the guide. Multi-evaluation measures will be used to evaluate the total program at the end of the year as an aid in designing the program for the following school year. A Mentor Committee serves to review and revise the Mentor Guide annually.

Mentor Program (cont'd)**PROGRAM POPULATION**

The population for this program are those underachieving seventh and eighth grade students on the D, F list produced at progress report time during the first quarter, and those students who have been referred by a teacher, or counselor for one or more of the following reasons:

- Are not performing academically to full potential based on test scores or other assessments
- Lack self-esteem, but could develop self-confidence as learner through positive interaction with an adult role model
- Have limited home resources that may hinder their ability to perform well in school
- Exhibit behaviors as described in the Underachievement Profile in the guide
- Other

PLANS FOR GETTING STARTED

- Upon receipt of the first quarter progress report, students needing mentors will be identified via the D, F list or teacher/counselor referral.
- Counselors will meet with potential student participants to explain the goals of the program. Applicants will sign an agreement to participate. Parents will be notified in writing and offered an evening orientation to the program. Counselors will collect permissions and conduct a follow-up for those not returned.
- Volunteer mentors will select 5 students from a list of applicants, prioritizing preferences, and indicating the

Mentor Program (cont'd)

number of students they wish to advise. After careful matching of mentor to student, the Guidance Director will assign students to mentor's homeroom as appropriate.

- Introductory phone calls from mentors to parents will follow.
- Parent meetings will be planned and scheduled throughout the school year by guidance. Mentor participation is optional.
- Mentors are responsible for developing their own flexible work plans to meet with their advisees. Weekly meetings, mini-contacts and conferences are encouraged for goal setting and close monitoring of academic progress. Suggested work plans are included in this Guide.
- Guidance is responsible for scheduling monthly, on a rotating periodic basis, structured large group sessions to include study skills, test taking skills and time management skills.
- Close communication with guidance and mentors is encouraged so that appropriate referrals can be made.

SUGGESTED PROGRAM WORK PLANSDaily Nurturing (in the homeroom setting)

Mentors should check with their mentees most mornings, i.e., does he or she have required materials, homework, etc. A quick attitude survey will take place--what's the "affect"--how does the student seem? The horizontal relationship--give and take--will be pursued, and sharing tasks encouraged (i.e., the teacher could ask student to do a job for the teacher). If school supplies are needed or if problems are perceived, guidance should be informed.

Mentor Program (cont'd)

After School Weekly Meetings

The mentor should arrange an after school meeting with the student within one week of Mentor assignment in order to develop a contract for academic goal setting and mentor/mentee expectations. Other relation-building activities can be employed. (Refer to the Getting Started section, Phase I, of this Guide). A weekly check-up list which shows daily assignments and responsibilities could be implemented immediately. (Refer to the Monitoring section, Phase II, of this Guide. For further strategies, refer to the Resource Bank). Mentor and mentee should agree on a weekly meeting time and then be persistent about keeping the date. Rescheduling will naturally occur from time to time.

Mini-contacts/Maxi-contacts

In addition to the weekly meeting, the mentor should make every effort to have at least one "mini-contact" per week. These include touching base with the student during homeroom or a time other than homeroom, after the goal-setting session, to monitor the student's educational program, develop an ongoing interpersonal relationship, and encourage the student's positive feelings toward his or her academic goals and expectations. The contacts can be made in the following ways:

- Brief after school appointment. (other than the weekly scheduled meeting)
- During the lunch period
- During the mentor's planning period, if pre-arranged with the student's teacher that period.
- By telephone (especially if student is absent)
- In class if you have the student.
- Other arrangement (use Mentor Activity Form securing principal's approval if outside of school).

Mentor Program (cont'd)

CONFERENCES

Weekly Student Meetings

The purpose of weekly meetings include:

- a) Stating Mentor-Mentee Program expectations
- b) Planning goals for the quarter
- c) Monitoring, follow-up and assessing progress toward current goals
- d) Evaluation of past quarter performance, preparation for parent conferences, if necessary
- e) Arranging for remedial/tutorial assistance as determined and reinforcing study skills sessions learnings.

Parent Conferences

The Mentor should set up at least two conferences per year with the parents at a mutually agreeable time. The guidance secretary will help make the arrangements. If desired, other teachers may be present. Current research reveals that parents prefer direct, personal contact between educator and parent to other methods of communication.

Student Arranged Conference

The student should set up at least one conference per year with the mentor and parents. The student might plan and conduct the conference in accordance with a format previously agreed upon by the mentor and student. (See Forms for setting and conducting this conference in Phase II.)

Home-Community Visits - OPTIONAL

If agreeable, the mentor has the option of arranging a home visit with the student and his or her parents or guardian. Suggestions for approaching

Mentor Program (cont'd)

parents and making home visits can be discussed and arranged with the counselor or our school social worker. Counselors are available to accompany a mentor in this activity.

Parent Orientation and Parent Meetings

In October, a parent orientation will be planned for the purpose of introducing the program and its goals. Parent education meetings will be scheduled throughout the school year for the purpose of relationship building. Specific mentors are encouraged to attend if convenient. A major focus will be to help the parent get involved in his/her child's education in a positive way.

GUIDANCE RESPONSIBILITIES

The Guidance Department is responsible for providing support for all of the roles a mentor undertakes: educational advisor, facilitator, guardian, etc., by directing all appropriate resources toward meeting the goals of the program. Guidance is responsible for the Mentor Guide, the mentor inservices and the structured group sessions on study and test taking skills. In mentor staff consultation, the guidance counselor:

- Provides leadership by placement of students, planning structured group activities and assisting mentor staff in carrying out responsibilities as educational advisors.
- Shares appropriate individual student data with mentors, with due regard for confidentiality requirements.
- Participates in ongoing mentor inservice training as the need arises.
- Assists the mentor in securing materials and developing strategies and procedures for improving underachievement.
- Assists with understanding and coping with particular problems posed by different students.

Mentor Program (cont'd)

- Assists the mentor in setting up parent conferences, as requested, and home visits as the need arises.
- Maintains a Resource Bank with strategies for individual mentor/mentee activities.
- Encourages mentors to add activities and strategies to the Mentor Guide and Resource Bank that are appropriate for improving self-concept, building study and test taking skills and improving interpersonal relationships.
- Provides experiences for students to develop more positive self-concepts.
- Directs the administration of pre and post Self-Concept and Motivation Inventory to student participants.
- Delivers structured group activities, at least once a month, to rotating core groups.
- Substitutes for the mentor by pre-arrangement on an "as needed" basis.
- Refers mentor's students to peer tutors, social workers, local screening, etc.
- Provides parent orientation to the Mentor Program.
- Plans scheduled parent meetings for parents of participants.
- Conducts multi-evaluation measures of the Mentor Program and coordinates review and revision of Mentor Guide and Mentor Inservices for the following year's program.

INSERVICES

Because the mentor program is a relatively new and unique part of our school, adequate preparation and training is essential. Four inservices are planned during the school year. The purpose of these inservices is to enable participants

Mentor Program (cont'd)

to be effective mentors (Educational Advisors) to underachievers. Inservices will include an introduction of the Mentor Guide and its use, guest speakers and continued program evaluation. Mentors have the option of including their mentor participation in these staff development sessions as part of their individual EBO's.

ADDITIONAL PROGRAM SUPPORTLocal Resources

In order to ensure success in meeting some of the objectives of the program, it is essential that complete staff support be acquired. Mentors can help gather this support by a positive attitude toward their additional role. As problems arise and frustrations mount (and they will), it will serve in the best interests of the student and adult involved if they are shared with guidance. Mentors should use their counselors as a resource and feel free to ask them questions and clarify misunderstandings as they occur. Total communication between counselor, teacher, mentor, student and parent is an integral part of the program's ability to be successful. If something is working, share it. The services of the school social worker and school psychologist through guidance are available as additional support. The school's administrative staff is committed to the goals and objectives of this program.

Area II

The Area II office has approved the use of the Self-Concept and Motivation Inventory (SCAMIN) as a self-concept measure. Our Grant Proposal to Improve Minority Students' Academic Aspirations and Achievements has been approved by the county. The office of Research and Evaluation will assist in our school based evaluation.

Community Resources

The use of the local community libraries as convenient meeting places for Mentor Program parent meetings should continue to be considered. Prior arrangements need to be secured by guidance.

Mentor Program (cont'd)

LONG RANGE PROGRAM GOALS

This program is designed to "buttress the support milieu of underachievers, including minority students, so that grades, self-concept, and overall academic and personal growth will improve," as it is stated in the Annual Operating Plan of Ellen Glasgow Intermediate School for the school year. The program has the support of the principal and the administrative staff of Glasgow, the Area II and county offices.

SHORT TERM GOALS

While grades and test scores are indicators of improved achievement, time is a factor to be considered. Success does not come overnight. For many students, a change in attitude will precede improved grades. For others, changed behavior or taking on new behaviors will come first. A very important goal of this program is to provide a forum for helping a student feel better about himself as a learner. A line of research suggests that self-esteem appears to have a stronger relationship to school achievement than ability or motivation. There exists a strong reciprocal relationship between a positive self-concept and scholastic success and a negative self-concept and scholastic failure. Growth may, therefore, come in small increments. Look for change in the student's attitude - how he/she approaches the mentor/mentee relationship, how he/she approaches assignments. Ask how the teachers perceive the mentee's class performance. Has participation or homework improved? Is the child more engaged in learning? The teacher's observations may be the initial indicator of growth. Helping the students to know how they learn and giving them skills for learning, plus a dose of personal support, may be the beginning of acquiring improved self-concepts and ultimately improved achievement. Helping the students take responsibility for their learning is a goal that may not be reflected in improved grades until further down the road.

A MENTOR IS

By definition a Mentor is "a wise advisor; a trusted teacher and counselor." This definition understates the very complex and meaningful relationship that can exist between a mentor and his/her protege. This relationship is created to meet important developmental needs for both individuals. Both the Mentor and the Mentee will derive benefits from this partnership. The protege will come to respect the mentor as a person and a professional; as one who embodies the values, hopes, wisdom, and the strength the mentee may hope to achieve. The mentor cares about the protege and wants to spend time to teach, challenge and support him or her.

Mentoring is people centered. Mentors guide learners into relating with and helping others but, at the same time, help the student to develop his/her own individuality and self-concept. The mentor must be prepared to provide continued support and guidance to the student as long as needed.

Mentors have reported deriving many benefits from being involved in mentoring programs. Some of the most frequently mentioned are listed below.

- Feeling of being useful to someone else
- Satisfaction of helping someone to grow
- Feeling of being trusted
- Became a better listener
- Gained ideas
- Became more outgoing
- Reinforced professional identity
- Increased patience
- Feeling of pride in seeing the protege learn and focus on goals
- Ability to lead protege to higher level of thinking

A MENTOR IS NOT

A mentor can serve many roles for his or her protege as outlined in the previous section; but there are also certain hats the mentor should not attempt to wear.

I. The Role of Mentor vs. School Guidance Counselor

There may be some concern on the part of the mentor about helping their children to "solve problems" that might normally be handled by the school guidance counselor.

The mentor should never attempt to be a substitute for the school guidance counselor. Instead the two can work together. The Mentor may bring insights about the child to the attention of the counselor. The counselor, in turn, can help the mentor to better understand person-to-person dynamics.

II. The Role of Mentor vs. Classroom Teacher

Mentors must never become surrogate teachers who must evaluate, grade and compile detailed reports. They must always retain their professional identities separate from the classroom teacher.

III. The Role of Friend vs. Chum

The mentor must always be a friend who is looking out for the best interests of the protege rather than the "chum" who goes along with anything the protege wants no matter what the consequences.

ADVANTAGES OF A MENTORING PROGRAM

SCHOOLS (Administrative)	STAFFS	MENTORS	MENTEES	PARENTS
Improved morale	Better student/ teacher relations	Get to know students on a more personal level	Sense of security in having someone to turn to	Better flow of infur- mation between school and home
Sense of humanness in organization	Decrease in discipline problems	Become a better listener	Sense of self- confidence and personal worth	Feeling of greater involvement in the school
Teachers become more "student" oriented	Increased school attendance	Satisfaction of helping someone to grow	Skills to set goals and meet them	
	Fewer school suspensions	Feeling of being trusted and needed	Improved coping skills	Reduction of school- related tension in the home
		Gain insights from student point of view	Feeling of con- cern for others	Acceptance of a more supportive posture of the school
		Increased patience and understanding	Ability to put problems in pers- pective	
		Feeling of pride as mentees improve	Knowledge/skills to understand and make the system work for them	
			Feeling of greater involvement in the school	

PHASESPHASE I

In this section you will find activities which can be used to get to know your students. These activities include student information gathering, long range goal planning and a personal description sheet.

PHASE II

During the year you may choose to use some of the following activities during mini-contacts, weekly meetings, and parent-student conferences. In addition to the activities listed below, you should feel free to create your own work sheets. Other resource activities will be kept in the Resource Bank in the library.

Included in this guide are the following activities for monitoring: study skills survey, student attitude survey, homework do's and don'ts, check-up sheets, assignment sheets, notice of after school meetings, student organized conference and a conference report.

PHASE III

Communications: Information and communications are included to keep you informed. Please insert updated memos and "FYI" communications as distributed.

PHASE IV

Evaluation: Pre and Post scales and surveys are included in this section. Some materials for this phase will be distributed towards the end of the school year. This will be an opportunity for the mentor/teacher/mentee/parent to look at what has been accomplished and what can be improved upon to reach our goals.

PHASE V

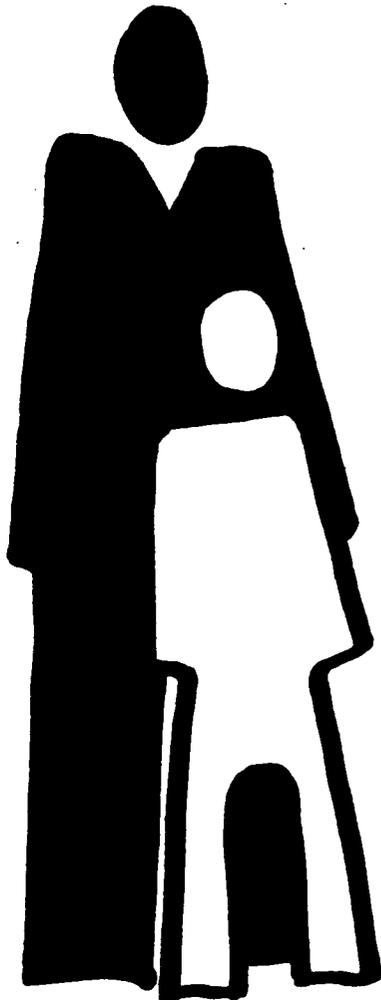
Research: Current research on underachievement and mentoring is included. Please insert journal articles as distributed during the school year.

PHASE I

GETTING STARTED

TABLE OF CONTENTS

- I-1 Student Information Sheet
- I-2 My Goals for the Year
- I-3 This is Me



STUDENT INFORMATION SHEET

(-1)

NAME _____ BIRTHDATE _____

ADDRESS _____

PHONE _____

MOTHER'S NAME _____ WORK PHONE _____

FATHER'S NAME _____ WORK PHONE _____

COUNSELOR'S NAME _____ GRADE LEVEL _____

HOBBIES _____

QUARTERLY INFO.	1	2	3	4
PHONE CALL				
INTERIM GRADE				
QUARTERLY GRADE				

PERIOD	CLASS	TEACHER	ROOM
1			
2			
3			
4			
5			
6			
CLUBS			

MY GOALS FOR THE YEAR

Goal Completion

3rd Quarter	4th Quarter
----------------	----------------

GOALS AT HOME

This year I would like to try and help out more at home by:

A new interest I would like to develop this year is:

I would like to try to become better at:

Another goal of mine at home is:

GOALS AT SCHOOL

I would like to try to do better in the areas of:

This year I would like to join:

One study habit I would like to improve this year is:

Another goal of mine at school is:

THIS IS ME

1. My name is _____.
2. I live at _____.
3. My telephone number is _____.
4. I am _____ years old. My birthday is _____.
5. I am _____ tall.
6. My hair is _____ and my eyes are _____.
color color
7. I do ___ do not ___ wear eye-glasses. (check one)
8. I am right handed ___ left handed ___. (check one)
9. I have ___ brothers and ___ sisters.
10. I have _____ pet(s). It is a _____.
11. My favorite television show is _____.
12. My favorite movie is _____.
13. My favorite book is _____. The last book I read
was _____.
14. My favorite food is _____.
15. My favorite game is _____.
16. My favorite sport is _____.
17. My hobby is _____.
18. The schools clubs and organizations to which I belong are _____
_____.
19. If I could go anywhere in the world, I would like to go to _____.
20. My favorite place to visit is _____.

PHASE II
MONITORING

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II-2 Student Attitudinal Instrument
II-3 Homework Do's and Don'ts for Parents
II-4 Weekly Check-up
II-5 Support Contact
II-6 Assignment Sheet
II-7 Weekly Assignment Sheet
II-8 Notice of After School Meeting
II-9 Mentor Activity Form
II-10 Organizing My Parent-Mentor Conference
II-11 Student-Parent-Mentor Conference Letter
II-12 Conference Agenda Form
II-13 Conference Report



Name _____

Date _____

STUDENT SELF-ASSESSMENT SURVEY

Study Skills

You recently received your report card for this quarter. Maybe you didn't do as well as you would have liked. Perhaps there are things you can do to improve before the next report card.

Think carefully before answering each of the following questions:

1. Am I satisfied with my grades?
2. Are my parents satisfied with my grades?
3. Could I improve my grades?
4. Have I been spending at least one hour each week night on my homework or reading?
5. What changes do I need to make in my study habits? (Check those that you think apply to you.)
 - a. Turn in daily work.
 - b. Complete all homework.
 - c. Organize my notebook (with sections for each subject, clean loose-leaf paper, and everything fastened in).
 - d. Review all notes before a test.
 - e. Stay after school with my teacher for extra help.
 - f. Be more attentive in class.
 - g. Always have paper and pencil and other necessary supplies in class.
 - h. Ask questions when I don't understand.
 - i. _____
(Write in any other changes that you might need to make that are not listed above.)
6. What do you think are your chances of reaching your goals—100%, 70%, 30%? Why? My improvement goal for this next quarter is _____

MENTOR PROGRAM**FROM THE GUIDANCE DEPARTMENT**

You say you have no homework!!

As counselors and teachers meet with parents, we often hear parents say, "My child never has any homework." This is quite puzzling because as you visited classes on "Back-to-School Night" I'm sure you heard teachers in many classes say, "There will be homework in this class." The problem then appears to be how do we get the homework done and what we as parents can do to help our children with homework.

Homework has value for students. Doing homework gives the student the opportunity to see if he/she understands the concept taught in class. It serves as a reinforcer of learned information; it offers the teacher the opportunity to know what a child does or does not understand. It offers a child the opportunity to organize his/her activities and day-to-day life patterns in a functional manner. Homework is healthy for academic success.

Homework constitutes a variety of different activities. In some classes it may be doing specific problems or answering questions, while in other classes it may be a reading assignment. In some classes it may be reviewing the notes taken in a class during the class period. Many classes require special notebooks and homework could be reviewing the material in the notebook, making sure it is well organized, complete and correct.

So often our children think homework is only something to be written. We know this is not the only kind of homework, and we as parents and teachers must encourage students to review, reread, and copy. This requires a measure of independence and self motivation. As parents, the importance of school should be stressed from the very beginning. School must be a priority. As a result of your helping in this way, you can help your student improve his/her academic progress.

Students at the intermediate level should have about one to one and one-half hours of homework a night. If students consistently come home with nothing to do, you can provide them with something specific to do for an hour. They might read, do word puzzles, work on multiplication tables, write letters, play games that concentrate on vocabulary, learn to write directions given verbally, or some other parent-created learning activities.

Some do's and don'ts for the development of good study habits:

- (1) Provide a good, quiet place for study.
- (2) Periodically check on your child while he/she is studying. Ask about the homework to see if your child understands it.
- (3) Help your child by removing distractions from his/her place of study.
- (4) Make doing homework important; give it high priority in your family.
- (5) Help your child to organize his/her study time; determine what is the best time to study in relationship to the family activities.
- (6) If your child's study time must be changed, insist that another time be set aside to get the homework done.
- (7) Review your child's written work for thoroughness, good sentence structure, correctly spelled words, and neatness. Point out that there are errors and let the student find and make the corrections.
- (8) Review your child's notebooks and classroom textbooks to have a better understanding of the materials being covered in classes.
- (9) Take the time to review spelling words or questions for tests with your child.
- (10) Give your child praise on completing homework, on good grades seen in notebooks, and for doing the best job he/she can academically.

If you have questions about your child's homework, contact the teacher. Parents are always welcome to talk with teachers and counselors about their child's progress.

MENTOR PROGRAM

Weekly Check-up

WEEK _____

TO TEACHER: _____ SUBJECT: _____

FROM: MENTOR: _____

RE:

Please provide the information requested below by circling the appropriate response.

Return this form to my mailbox. Thank you very much for your cooperation.

Daily Assignments	Tests/ Quizzes	Completion of Homework	Classroom Behavior	Grade to Date
A	A	Satisfactory	Satisfactory	
B	B	Needs Improvement	Needs Improvement	_____
C	C	Unsatisfactory	Unacceptable	
D	D	Not Applicable		
F	F			

Additional comments:

MENTOR PROGRAM
SUPPORT CONTACT

MEMORANDUM

DATE _____

To:

Mentor:

Re:

This year the mentor team is committed to providing academic support to the students in the mentor program. Please use the mentor to assist you as you work with the student. If you need help in getting this student to do homework, to stay after school for make-up work, to be on time to class, or to do any other thing that will help this student be successful in your class, please contact the mentor listed above. The mentor can also be helpful in contacting parents.

Please use the attached form to identify any problems that exist and return to my mail box as soon as possible.

S-SATISFACTORY	N-NEEDS IMPROVEMENT			U-UNSATISFACTORY
Academic Work	S	N	U	
Homework	S	N	U	
Effort	S	N	U	
Attendance	S	N	U	
Tardies	S	N	U	
Classroom behavior	S	N	U	

Do you need help in contacting the parents? YES NO

Does the student need to stay with you after school for extra help? YES NO

Does the student need tutoring beyond the help you can provide? YES NO

Would you like to meet with me to discuss this student? YES NO

Approximate Letter Grade _____



FAIRFAX COUNTY PUBLIC SCHOOLS Fairfax, Virginia 22030

MEMORANDUM

MENTOR MONTHLY LOG

Name: _____

MONTH: _____



Number
of after-
school
meetings

Week 1	Week 2	Week 3	Week 4

ELLEN GLASGOW INTERMEDIATE SCHOOL
MENTOR PROGRAM
NOTICE OF AFTER SCHOOL ASSIGNMENT

II-8

DATE ISSUED _____

For your information, your child, _____ has been asked to remain after school on a weekly basis with his/her mentor. The after school mentor-mentee day will be (circle): Tuesday Wednesday Thursday

Student will return home by:

_____ Late bus

_____ Parent transportation

The completed form must be returned to the teacher (mentor).

Teacher's signature

Student's signature

Parent's signature

II-11

STUDENT-PARENT-MENTOR CONFERENCE

I understand that it is my responsibility to plan a conference at which I will meet with at least one of my parents and my mentor.

I would like to have our meeting on _____.

We will meet in _____.

Student signature

We agree to meeting at the above time and place.

Parent signature

Mentor signature

MENTOR ACTIVITY FORM

ACTIVITY DESTINATION _____

DATE OF ACTIVITY _____

TRANSPORTATION

_____ Walking _____ School Bus _____ Commercial Carrier _____ Private Vehicle

DESCRIPTION OF ACTIVITY

APPROVED _____
Principal

MENTOR _____
Signature

PARENT PERMISSION

I give permission for _____ to participate in the activity described above.

_____ Date

_____ Parent's signature

ORGANIZING MY PARENT-MENTOR CONFERENCE

1. Set a date, time, and choose a location.
 2. Have my mentor and parent sign the conference letter at least one week before the conference. Return the signed letter to my mentor.
 3. Decide with my mentor what we should discuss at our conference.
 4. List what items I need to bring to my conference (example: notebook, assignment sheet).
 5. On the day of our conference, remind my parent(s) and my mentor of the time and place.
 6. At the start of the conference introduce my parent(s) and mentor.
-

CONFERENCE AGENDA FORM

At my conference I would like to talk about:

- 1.
- 2.
- 3.
- 4.
- 5.

I will need to bring the following materials to my conference:

- 1.
- 2.
- 3.
- 4.
- 5.

**MENTOR PROGRAM
CONFERENCE REPORT**

MENTOR: _____

Date _____

MENTEE: _____

Time _____

Participants:

_____ Phone conference

_____ School conference

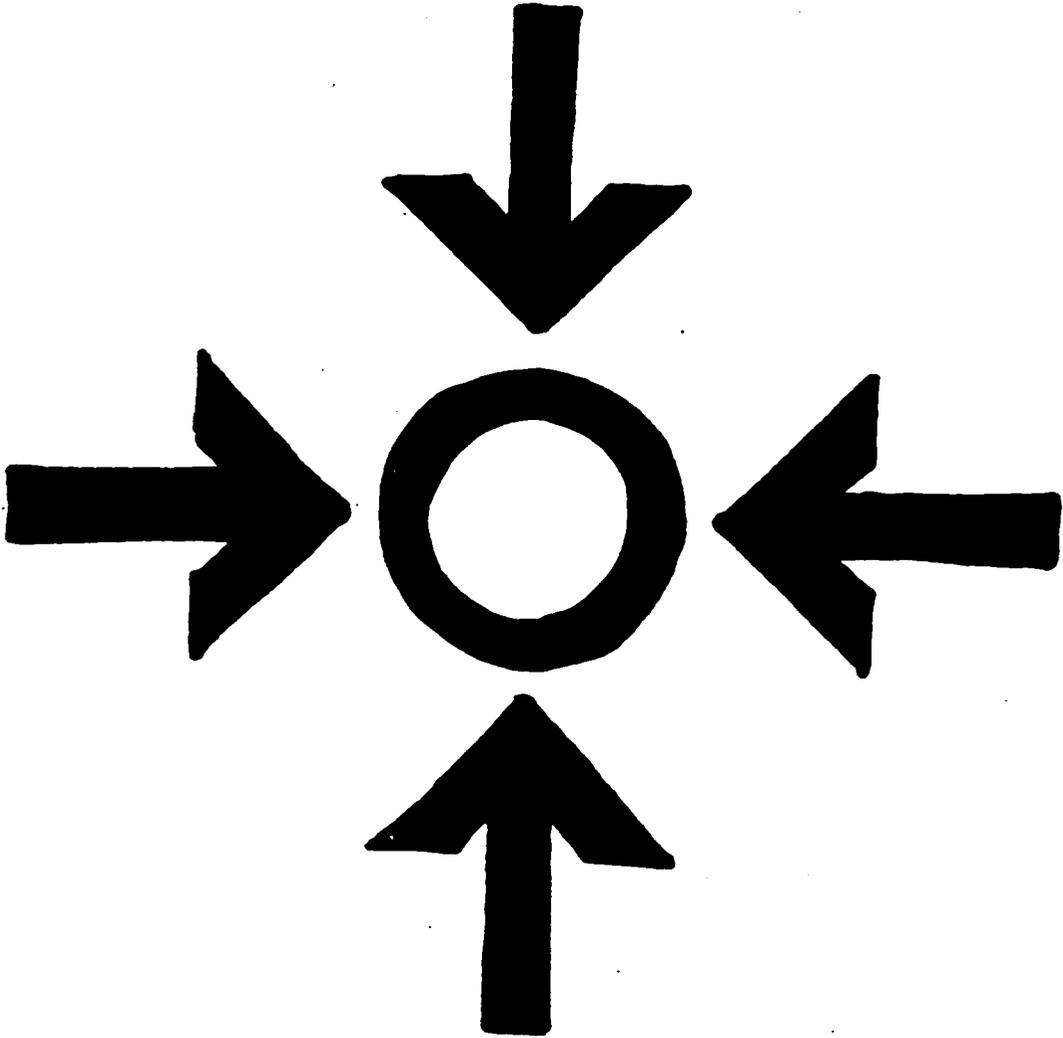
_____ Home conference

Reason for conference:

Action taken:

Please return a copy to the Guidance Counselor.

PHASE III
COMMUNICATIONS



TIMELINES

- AUGUST Mentor inservice and volunteers enlisted (Guidance responsibility).
- SEPTEMBER Update Mentor Guide and distribute to Mentors (Guidance responsibility).
- OCTOBER 3 Identify underachievers at progress report time of first grading period by applying specific criteria (Guidance Director responsibility).
- OCTOBER 6 Faculty meeting - and Mentor Inservice - "Dr. Doda"
- OCTOBER 10 Counselors hold orientations for potential student participants. Distribute and collect permissions.
- OCTOBER 16 Hold parent orientation in evening (Guidance Director responsibility).
7:30 P.M.
- OCTOBER 28 Administer SCAMIN to subjects in school. Collect first quarter date (Principal responsibility).
- NOVEMBER 3 Inservice on Mentor Guide and matching Mentee to Mentor
- NOVEMBER 5 Program implementation (Guidance responsibility).
- NOVEMBER Study Skills sessions for Mentees (Guidance responsibility).
17 & 18
- DECEMBER -Mentor-Mentee volleyball game (Guidance responsibility).
- DECEMBER Study skills sessions for "Mentee" groups (Guidance responsibility).
- JANUARY Parent/Community Mentor Meetings (Guidance staff and Administrative staff responsibility).
- JANUARY Study skills sessions for mentee groups (Guidance responsibility).
- FEBRUARY Mentor inservice (Guidance responsibility).
- FEBRUARY Study skills sessions for mentee groups (Guidance responsibility).
- MARCH Parent/Community Mentor meeting (Guidance responsibility).
- MARCH Study skills sessions (Guidance responsibility).
- APRIL Mentor inservice (Guidance responsibility).
- MAY Study skills sessions for mentee groups (Guidance responsibility).
- MAY (late) Mentor-Mentee softball game
- JUNE Administer Posttest SCAMIN to mentees in one large group. (Principal responsibility).
- JUNE Final Mentor meeting to evaluate program (Guidance responsibility).
Submit payroll forms.
- JUNE Collect fourth quarter grades and compute grade point averages.
Post self concept rating scale.

**ELLEN GLASGOW INTERMEDIATE SCHOOL
A FAIRFAX COUNTY SCHOOL
4101 FAIRFAX PARKWAY
ALEXANDRIA, VIRGINIA 22312**

October 14, 1986

Dear Parents:

Glasgow has a new program to help students who are having academic difficulties. Students who apply will be assigned a mentor, or "educational advisor", who will attempt to help them improve in their academic performance.

The Mentor Program has been explained to the students. We invite you to hear about it on Thursday, October 16, 1986, at 7:30 P.M. in the school library. Because parent communication is a key element in our program, we encourage you to attend this important meeting.

The attached Mentor Program application should be returned with your child as soon as possible so that matching student to mentor can begin.

We look forward to seeing you on Thursday evening. Please call us at 256-6661 if you have any questions or if transportation is a problem. Your cooperation is greatly appreciated.

The Glasgow Guidance Department

Gail - counselor A-HA
Helene - counselor Hb-Pa
Judy - counselor Pb-Z

Date: _____

ELLEN GLASGOW INTERMEDIATE
Mentor Program

Student Application

Homeroom No. _____

Homeroom Teacher _____

Student's name _____ Grade _____

The Mentor Program, which is aimed at helping students do better at school, was introduced to me at an orientation I attended today.

I would like to participate in the Mentor Program.

I am not interested in participating in the Mentor Program.

Student's signature

I am in agreement with the above.

Parent's signature

Date: _____

Application deadline: Thursday, November 14, 1985.

Please return this form to the Guidance Department right away!



FAIRFAX COUNTY PUBLIC SCHOOLS Fairfax, Virginia 22030

MEMORANDUM

October 29, 1986

FROM: Helene Aiello
TO: Mentor Volunteers
SUBJ: Matching List

Attached are: (1) List of students needing mentors;
(2) Mentor match list.

Please complete the match list and return to me not later than Thursday morning. Please be sure to list 5 students in priority order 1-5 unless you have no preference. Also, be sure to indicate whether you want 1, 2, or 3 students.

We have a total of 116 mentees this year, 43 of whom are accounted for. We have approximately 52 mentors. That means we have a need for every mentor to take at least two mentees and twelve mentors to take three mentees.

For mentors with 2nd year students:

If some of the students have reached one of our goals of being self-sufficient, you may be able to adjust your meetings with them, allowing you to take on additional needy students.

Your support is appreciated.

PHASE IV
EVALUATION

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- IV-1.....Self-Assessment
- IV-2.....Self-Concept Rating Scale (Pre/Post)
- IV-3.....Mentor Program Evaluation
- IV-4.....Parent Mentor Program Evaluation (Pre/Post)
- IV-5.....Teacher Evaluation (to be developed)
- IV-6.....Mentee Evaluation



ELLEN GLASGOW INTERMEDIATE SCHOOL

SELF CONCEPT RATING SCALE

STUDENT NAME _____ TEACHER NAME _____

DATE _____

DIRECTIONS: MENTORS SHOULD USE THE RATING SCALE AT THE BEGINNING (PRE) AND END (POST) OF PROGRAM PARTICIPATION. CATEGORIES 1 THROUGH 4 REFER TO YOUR CLASS ONLY. IF YOU DON'T TEACH THE STUDENT, USE ONE OTHER TEACHER. NUMBERS 6 THROUGH 16, CIRCLE THE APPROPRIATE NUMBER, RANGING FROM ONE (LOW) TO FIVE (HIGH). MAKE JOURNAL ENTRIES ON THE BACK OF THIS FORM. SUBMIT TO COUNSELOR IN NOVEMBER AND JUNE.

1. NUMBER OF TARDIES TO CLASS _____	1	2	3	4	5
2. NUMBER OF ABSENCES _____	1	2	3	4	5
3. NUMBER OF DETENTIONS _____	1	2	3	4	5
4. NUMBER OF REFERRALS TO ADMINISTRATORS _____ FROM YOUR CLASS _____ SCHOOLWIDE _____ (COUNSELOR)	1	2	3	4	5
5. NINE WEEK OR INTERIM GRADES: ENGLISH _____ MATH _____ SCIENCE _____ SOCIAL STUDIES _____ P. E. _____ ELECTIVE _____ (COUNSELOR)	1	2	3	4	5
6. PARTICIPATES IN CLASS DISCUSSION	1	2	3	4	5
7. TURNS IN ASSIGNMENTS	1	2	3	4	5
8. COOPERATIVE ATTITUDE	1	2	3	4	5
9. USES EYE CONTACT	1	2	3	4	5
10. BRINGS SUPPLIES TO CLASS	1	2	3	4	5
11. SEEKS EXTRA HELP FROM TEACHER	1	2	3	4	5
12. ACCEPTS CONSTRUCTIVE CRITICISM	1	2	3	4	5
13. INTERACTS POSITIVELY WITH OTHERS	1	2	3	4	5
14. WILLING TO SHARE FEELINGS	1	2	3	4	5
15. SHOWS EVIDENCE OF PERSONAL HYGIENE	1	2	3	4	5
16. WRITINGS EXPRESS FEELINGS OF SELF WORTH	1	2	3	4	5

28 06

MENTOR PROGRAM EVALUATION

1. What do you think were the strengths of the program? _____

2. What do you think were the weaknesses of the program? _____

3. What aspects of the program do you think should be changed or modified?

4. What, if anything, should be added to the program? _____

5. Do you feel that you were given enough information on mentoring? _____

If not, what kinds of support can we give you? _____

6. What was your biggest frustration? _____

7. What kinds of activities or strategies would be helpful to strengthen the mentoring relationship? _____

Mentoring Program Evaluation - continued

-2-

8. In order to update the Mentor Guide we need to know what parts of the guide were beneficial to you. Please check where appropriate.

Helpful Somewhat Helpful Not Helpful

Rationale/Background

Phase I - Getting Started

Phase II - Monitoring Activities

Phase III - Communication

Phase IV - Evaluation

Phase V - Research

What should be added to the Guide to help you? _____

9. How adequate was the communication between guidance and faculty regarding the mentor program? (Explain) _____

10. A mentoring relationship is a partnership between mentor and mentee - what did you gain, if anything, from that relationship? _____

Other thoughts: _____

Thank you

PARENT EVALUATION

(Pre)

1. Which type(s) of communication from your child's mentor would work best for you? (check all that apply)

phone call from the mentor
 letter from the mentor
 weekly checklist from the mentor
 home visit by the mentor
 conference at school by the mentor

2. In what way(s) would you like to be involved in the mentoring program? Check all that appeal to you.

helping my child with his/her homework
 asking my child if he/she has completed his/her homework
 contacting my child's mentor if I have any concerns or if there's a problem at home that the mentor should know
 assigning my child at least one household chore (ex: making bed, setting table, taking out the trash)
 making sure my child has a study area and a study time
 attending parent/mentor meetings in the evening
 help to coordinate a social activity for parents, mentors and students
 spending some time each day communicating with my child with no distractions

3. What do you expect from the mentor program?

PARENT EVALUATION

(Post)

1. What do you think were the strengths of the mentor program?

2. What do you think were the weaknesses of the program?

3. How adequate was the communication between the school and you?

4. How often were you contacted by your child's mentor?

5. How often did you contact your child's mentor?

6. In what ways would you like to see the mentor program changed?

7. Do you feel the mentor program helped your child?

8. What changes did you see in your child that you feel were a result of the mentor program?

For each question below, circle the most appropriate answer.

TA= Tend to agree
 A= Agree
 D= Disagree
 TD= Tend to disagree

- | | | | | |
|---|----|---|---|----|
| 1. I heard from my child's mentor on a regular basis. | TA | A | D | TD |
| 2. Most of the feedback I received about my child was positive. | TA | A | D | TD |
| 3. Having the support of a mentor helped me to work with my child at home. | TA | A | D | TD |
| 4. I found the mailed parent information and/or parent meetings to be useful. | TA | A | D | TD |
| 5. My child feels better about him/herself as a learner since the beginning of the year. | TA | A | D | TD |
| 6. The type of mentor/parent communication that worked best for me was a phone call. | TA | A | D | TD |
| 7. I felt comfortable about calling my child's mentor at school. | TA | A | D | TD |
| 8. I would recommend the mentor program to another parent. | TA | A | D | TD |
| 9. I feel that my child benefited from the mentor program. | TA | A | D | TD |
| 10. I wish that I had heard more often from my child's mentor. | TA | A | D | TD |
| 11. The type of mentor/parent communication that worked best for me was a weekly checkup sheet. | TA | A | D | TD |
| 12. The type of mentor/parent communication that worked best for me was a conference. | TA | A | D | TD |
| 13. I attended at least one mentor/parent meeting. | TA | A | D | TD |
| 14. Information about study skills helped me to be more effective in assisting my child with homework. | TA | A | D | TD |
| 15. I understand the "underachieving student" better as a result of my involvement in the mentor program. | TA | A | D | TD |
| 16. The mentor program met my expectations. | TA | A | D | TD |
| 17. My expectations may have been unrealistic. | TA | A | D | TD |

18. I reminded my child to remain after school with his/her mentor weekly.

TA A D TD

19. As a result of the mentor program, I was better informed about my child's grades and progress.

TA A D TD

20. I met with my child's mentor.

TA A D TD

How can we improve the program?

What did you like best about the program?

Mentor Program Student Evaluation

For each question below, circle the best answer.

A = Agree

TA = Tend to Agree

TD = Tend to disagree

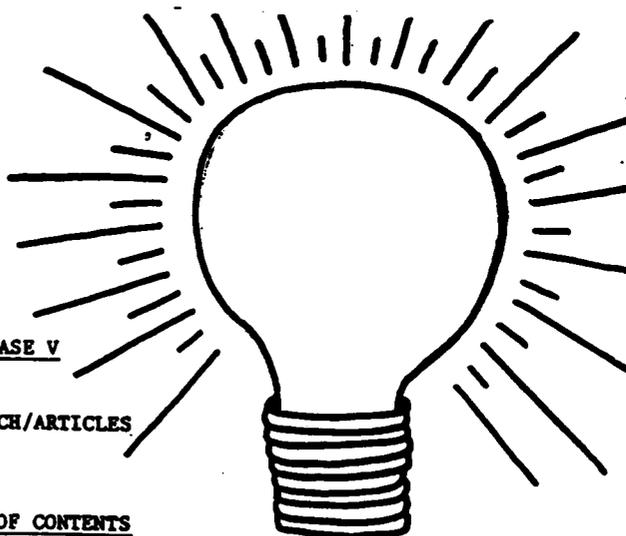
D = Disagree

- A TA TD D 1. The Mentor Program helped me improve one or more of my grades.
- A TA TD D 2. My mentor seemed interested in me.
- A TA TD D 3. I met with my mentor on a regular basis.
- A TA TD D 4. Remaining afterschool was worth my time.
- A TA TD D 5. The Mentor Program helped me turn in my homework assignments.
- A TA TD D 6. Being in the program helped me to work better with teachers.
- A TA TD D 7. The group guidance study skills sessions were useful.
- A TA TD D 8. The once a month Mentor-Mentee days afterschool were good.
- A TA TD D 9. I liked having a mentor.
- A TA TD D 10. I would agree to be in the Mentor Program again if I needed the support.

Please answer the following by completing the sentences:

A. What I liked best about the program was....

B. What I liked least about the program was....



PHASE V

RESEARCH/ARTICLES

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V-1	Effective Home/School Communication
V-2	Underachievement Profile
V-3	Points to Remember - 40 Ways To Help
V-4	Understanding Underachievers
V-5	Why are Smart Kids Underachievers?
V-6	In Search of Achievement
V-7	The Nature, Role, and Influence of Mentors
V-8	Who are Underachievers?

Underachievement Profile

Whether your child is an underachiever or not can best be determined by a professional experienced in the field of underachievement. However, some behaviors to look for are:

- | | Yes | No |
|--|--------------------------|--------------------------|
| 1. Your child scores average or better on Intelligence tests, but consistently brings home poor grades. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Teachers have been telling you for a long time that "he doesn't apply himself". | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Too much time is spent watching TV or not doing anything constructive. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Too little time is spent preparing for classes or doing homework. May even claim that there is no assigned work. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Shows little initiative in doing household chores. Is not a "self-starter". Must be nagged. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Is immature in relationships with adults. Sees any criticism as being "picked on". | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Often fails to complete projects, or loses interest even in things he says he wants. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Does his worst in the important subjects like Reading, Math and English. | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Procrastinates. Answers most parent requests with "later" or "in a minute". Leaves school projects until the last minute. | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Seldom accepts responsibility for personal failure. Tends to blame "bad luck" or other people. | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Teachers report that the child is almost always behind in school work and lacks self discipline. | <input type="checkbox"/> | <input type="checkbox"/> |

- | | Yes | No |
|--|--------------------------|--------------------------|
| 12. Makes excuses for poor grades like "the teacher is boring", "the class is irrelevant", or "I had a bad day". | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. He seems to have a short attention span. | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Spends more time and energy working at getting out of tasks than completing them. | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Appears to make no realistic plans for the future. In fact, refuses to seriously discuss it. | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. He can do well, but only when he feels like it. | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. Becomes angry when things don't go exactly the way he wants. | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Cannot save money regardless of how much he earns or is given. | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Lacks self confidence especially around kids his own age. | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. Teachers say he can't work without one-to-one attention. | <input type="checkbox"/> | <input type="checkbox"/> |

Number of Yes answers

1-3 Probably not an underachiever.

4-7 Most likely an underachiever.

8-20 Definitely an underachiever.

This Underachievement Profile is no substitute for a professional evaluation. We ask parents to fill out the Underachievement Profile and bring it along to the initial interview.

Remember, most underachievers will deny they have a problem. It is you as parents who must make the decision to seek help.

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APPENDIX B
PROGRAM EVALUATION

FAIRFAX INTERMEDIATE SCHOOL SCORES								
MEAN NATIONAL PERCENTILE SRA SCORES FOR EACH SCHOOL								
School	Grade	Reading	Math	Lang.	Compos	Social Studies	Science	Ability
Cooper	8	82	92	85	88	81	81	85
Franklin	8	76	88	78	82	76	77	81
Frost	8	77	86	80	82	76	69	83
Glasgow	8	55	82	61	(67)	62	60	(65)
Hayfield	8	65	80	64	70	67	63	71
Herndon	8	70	83	71	75	71	70	76
Holmes	8	69	83	74	76	76	66	75
Hughes	8	71	85	73	77	74	69	77
Irving	8	78	89	81	84	82	78	83
Key	8	71	82	74	(76)	75	70	(78)
Kilmer	8	66	89	74	78	74	67	74
Lake Braddock	8	77	85	75	79	82	77	81
Lanier	8	72	83	75	78	76	73	78
Longfellow	8	73	89	79	82	79	73	80
Luther Jackson	8	67	85	72	(76)	72	65	(73)
Poe	8	67	82	70	73	73	68	71
Robinson	8	77	88	77	83	81	80	81
Rocky Run	8	71	82	72	76	73	78	78
Sandburg	8	54	70	63	62	59	61	67
Thoreau	8	75	88	79	83	81	73	80
Twain	8	57	77	62	(65)	65	64	(66)
Whitman	8	62	73	64	66	67	70	72
TOTAL COUNTY	8	73	86	76	79	76	74	79

Fairfax County Public Schools, 1987

**High and Intermediate Special Needs Schools
for 1986-87 and 1987-88**

Intermediate Schools

<u>1987-88</u>	<u>1986-87</u>
Sandburg	Glasgow
Hughes	Sandburg
Glasgow	Hughes
Hayfield	Twain
Twain	Hayfield
Jackson	Holmes
* Holmes	Jackson
* Whitman	Whitman

High Schools

<u>1987-88</u>	<u>1986-87</u>
Stuart	Stuart
West Potomac	West Potomac
Edison	Edison
Falls Church	Falls Church
Mount Vernon	Mount Vernon
Herndon	Marshall
* Hayfield	Hayfield
* Marshall	Herndon
* South Lakes	South Lakes

*Did not qualify for 1987-88 but continue to receive resources for that year.

Fairfax County Public Schools, 1987.

GRADE POINT AVERAGES
FOR TWO SCHOOLS

PRE PROG (PR)	1ST QTR.	2ND QTR.	3RD. QTR.	4TH QTR.	FINAL GPA	
EXP. N=55	1.79	2.04	1.88	1.99	1.94	2.03
CNTL. N=42	1.99	1.98	2.03	2.06	2.10	2.13

FOR GLASGOW STUDENTS

N=(100)	1.75	2.13	1.85	1.98	1.97	2.05
N=(747)		3.02	2.89	2.90	2.94	3.0
N=(ALL)		2.9	2.76	2.79	2.82	2.89

FOR TWO YEAR MENTEES

	10/85					6/86
	Pre program					Post program
N=(24)	1.79					2.4

FOLLOW-UP ON SECOND YEAR MENTEES (N=26)

FIRST MARK 1987-88

FINAL GPA 6/87

FIRST QUARTER GPA 11/87

2.02

2.2

FIRST QUARTER ASSIGNED GRADES

GRADE	NUMBER	PERCENT
A	16	10.3%
B+	11	7.1
B	24	15.4
C+	23	14.7
C	32	20.5
D+	11	7.1
D	23	14.7
F	16	10.3

STUDENT RETENTIONS IN INTERMEDIATE SCHOOLS
FAIRFAX COUNTY PUBLIC SCHOOLS

FAILURE RATE BY PERCENT RETAINED

YEAR	GLASGOW	JACKSON	KEY	AREA II	COUNTY
1983-84	8.2%	1.65%	7.54%	4.87%	3.93%
1984-85	7.2	4.75	4.92	5.14	4.62
1985-86	5.83%	5.39	3.46	4.46	4.26
1986-87	5.09	5.56	4.72	4.33	4.04

Fairfax County Public Schools, Student Promotions and Retentions,
August 1984, 1985, 1986, 1987.

ELLEN GLASGOW INTERMEDIATE SCHOOL

SELF CONCEPT RATING SCALE

STUDENT NAME _____ TEACHER NAME _____

DATE _____

DIRECTIONS: MENTORS SHOULD USE THE RATING SCALE AT THE BEGINNING (PRE) AND END (POST) OF PROGRAM PARTICIPATION. CATEGORIES 1 THROUGH 4 REFER TO YOUR CLASS ONLY. IF YOU DON'T TEACH THE STUDENT, USE ONE OTHER TEACHER. NUMBERS 6 THROUGH 16, CIRCLE THE APPROPRIATE NUMBER, RANGING FROM ONE (LOW) TO FIVE (HIGH). MAKE JOURNAL ENTRIES ON THE BACK OF THIS FORM. SUBMIT TO COUNSELOR IN NOVEMBER AND JUNE.

	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	P. E.	ELECTIVE	(COUNSELOR)
1. NUMBER OF TARDIES TO CLASS _____	1	2	3	4	5		
2. NUMBER OF ABSENCES _____	1	2	3	4	5		
3. NUMBER OF DETENTIONS _____	1	2	3	4	5		
4. NUMBER OF REFERRALS TO ADMINISTRATORS FROM YOUR CLASS _____ SCHOOLWIDE _____ (COUNSELOR)	1	2	3	4	5		
5. NINE WEEK OR INTERIM GRADES: ENGLISH _____ MATH _____ SCIENCE _____ SOCIAL STUDIES _____ P. E. _____ ELECTIVE _____ (COUNSELOR)	1	2	3	4	5		
6. PARTICIPATES IN CLASS DISCUSSION	1	2	3	4	5		
7. TURNS IN ASSIGNMENTS	1	2	3	4	5		
8. COOPERATIVE ATTITUDE	1	2	3	4	5		
9. USES EYE CONTACT	1	2	3	4	5		
10. BRINGS SUPPLIES TO CLASS	1	2	3	4	5		
11. SEEKS EXTRA HELP FROM TEACHER	1	2	3	4	5		
12. ACCEPTS CONSTRUCTIVE CRITICISM	1	2	3	4	5		
13. INTERACTS POSITIVELY WITH OTHERS	1	2	3	4	5		
14. WILLING TO SHARE FEELINGS	1	2	3	4	5		
15. SHOWS EVIDENCE OF PERSONAL HYGIENE	1	2	3	4	5		
16. WRITINGS EXPRESS FEELINGS OF SELF WORTH	1	2	3	4	5		

Mentor Program Student Evaluation

For each question below, circle the best answer.

A = Agree
 TA = Tend to Agree
 TD = Tend to disagree
 D = Disagree

73% 27%

A TA TD D 1. The Mentor Program helped me improve one or more of my grades.

82% 18%

A TA TD D 2. My mentor seemed interested in me.

55% 45%

A TA TD D 3. I met with my mentor on a regular basis.

68% 32%

A TA TD D 4. Remaining afterschool was worth my time.

63% 37%

A TA TD D 5. The Mentor Program helped me turn in my homework assignments.

67% 33%

A TA TD D 6. Being in the program helped me to work better with teachers.

76% 24%

A TA TD D 7. The group guidance study skills sessions were useful.

81% 19%

A TA TD D 8. The once a month Mentor-Mentee days afterschool were good.

75% 25%

A TA TD D 9. I liked having a mentor.

75% 25%

A TA TD D 10. I would agree to be in the Mentor Program again if I needed the support.

Please answer the following by completing the sentences:

A. What I liked best about the program was....

B. What I liked least about the program was....

Mentor Program Student Evaluation

Responses to open-ended questions:

QUESTION A: What I liked best about the program was....

- ...having refreshments and working with my mentor.
- ...when I needed help I got it
- ...meeting with my teacher on a daily basis.
- ...the help I received.
- ...I had a great mentor and she helped me a lot.
- ...the fun and extra help.
- ...the food.
- ...having a mentor.
- ...everything I guess.
- ...seeing movies on how to study.
- ...softball game against the teachers.
- ...that I got out of class a lot.
- ...getting food.
- ...I brought up my math grades.
- ...It's fun.
- ...that we got out of class.
- ...I liked keeping my grades up, that's what I liked best.
- ...baseball game.
- ...the softball game.
- ...I don't know.
- ...I think I learned a lot.
- ...It helped me.
- ...It helps me and my grades too. It helps me to get to know my mentor.
- ...that I get help from my teacher.
- ...my mentor.
- ...that it encouraged me to improve more.
- ...my mentor!
- ...when we found out what study method we used.
- ...the games and parties we had together.
- ...the softball game.
- ...It "kinda" helped me.
- ...you get to know people better and it feels nice having a person to help.
- ...that it helped me with my grades and attitude.
- ...the people who helped me.
- ...the food.
- ...I don't know.
- ...my mentor was there when I needed help.
- ...It helped me bring some grades up, but not all.
- ...softball game.
- ...getting together with other students.
- ...when we had the meetings.
- ...the softball game.
- ...fun.
- ...the games against the teachers.

...Mentor-Mentee day!
...that it helped me out in my grades and had me turn in all
of my work.
...when we met once for one month.
...that it helped me with my work and get along with people.
...getting the extra help that I needed to help my grades.
...my mentor.
...I really didn't participate very much but I liked the
"cookys."
...everything.
...the help I got, and the fun activities.
...the drinks and cookies.
...the things we did when we stayed after school.
...the after school things once a month.
...games.
...the food.
...what I liked best about the program was the "bat-ball"
game.
...that I had time to know things that I didn't know about me.
...I liked having someone in my corner.

QUESTION B: What I liked least about the program was....

...working all the time.
 ...spending time out of class.
 ...nothing. (total=20)
 ...that I couldn't stay for help someday.
 ...staying after.
 ...not staying for help.
 ...having to stay after school.
 ...staying after school.
 ...nothing
 ...my mentor didn't give me the help I needed.
 ...I had to stay after school every week!
 ...It's not fun.
 ...that I didn't get as much help as I needed.
 ...there was nothing.
 ...that it was with one of my teachers.
 ...staying after.
 ...I don't know.
 ...none.
 ...sometimes I wanted to go home.
 ...I had to stay after.
 ...none
 ...nothing really.
 ...did not use my mentor.
 ...they take you out of your favorite classes to attend a mentee session.
 ...problems I had with other kids.
 ...after school.
 ...the pressure people were putting on me.
 ...studying.
 ...staying after!
 ...You should stay after when you need it!
 ...staying after school.
 ...sessions.
 ...staying after school.
 ...having to stay after school. Why couldn't we do it in school like out of a class or something?
 ...work.
 ...when I couldn't get a teacher when I wanted
 ...I didn't get a lot of help.
 ...I didn't stay after as often as I should.
 ...that I worked too much.
 ...the sessions every week.
 ...nothing really.
 ...that I couldn't stay after everyday and that my mentor couldn't either.
 ...my mentor.
 ...I didn't come a lot.
 ...I liked everything.
 ...I liked everything about the program.

MENTOR PROGRAM EVALUATION

1. What do you think were the strengths of the program? _____

2. What do you think were the weaknesses of the program? _____

3. What aspects of the program do you think should be changed or modified?

4. What, if anything, should be added to the program? _____

5. Do you feel that you were given enough information on mentoring? _____

If not, what kinds of support can we give you? _____

6. What was your biggest frustration? _____

7. What kinds of activities or strategies would be helpful to strengthen the mentoring relationship? _____

Mentoring Program Evaluation - continued

-2-

8. In order to update the Mentor Guide we need to know what parts of the guide were beneficial to you. Please check where appropriate.

Helpful Somewhat Helpful Not Helpful

Rationale/Background

Phase I - Getting Started

Phase II - Monitoring Activities

Phase III - Communication

Phase IV - Evaluation

Phase V - Research

What should be added to the Guide to help you? _____

9. How adequate was the communication between guidance and faculty regarding the mentor program? (Explain) _____

10. A mentoring relationship is a partnership between mentor and mentee - what did you gain, if anything, from that relationship? _____

Other thoughts: _____

Thank you

Mentor Teacher Evaluation

Recommendations

1. Social Luncheon with awards.
2. Give each teacher a list of all mentees and mentors.
3. Calendar with all dates for all forms and meetings, etc.
4. "Rap" sessions for mentors.
5. Winter volleyball game.
6. Add to Mentor Guide - list of successful strategies tried by mentors in previous years.
7. Try to pair up academic weaknesses with teacher of that subject.
8. Have each teacher provide lists of test dates and type of assignment sheet used, etc., for mentor's use.
9. Create a "Bug Roll" - like honor roll - (maybe diff. name). BUG means Bring Up Grade (at least one grade, without one grade dropping).
10. In-school activity period.
11. Mentor-Mentee day afterschool weekly.
12. Extended Homeroom.
13. Try not to pull FROM classes that mentees are having trouble with.
14. Homework center.
15. Contest among mentor-mentee teams.
16. Camping weekend.
17. Form regarding meetings should include more than just after school meetings.
18. Refine underachiever definition and criteria.
19. More commitment from mentee explained at outset of program.

PARENT EVALUATION

(Pre)

1. Which type(s) of communication from your child's mentor would work best for you? (check all that apply)

18 phone call from the mentor
15 letter from the mentor
19 weekly checklist from the mentor
0 home visit by the mentor
8 conference at school by the mentor

2. In what way(s) would you like to be involved in the mentoring program? Check all that appeal to you.

15 helping my child with his/her homework
23 asking my child if he/she has completed his/her homework
18 contacting my child's mentor if I have any concerns or if there's a problem at home that the mentor should know
19 assigning my child at least one household chore (ex: making bed, setting table, taking out the trash)
21 making sure my child has a study area and a study time
8 attending parent/mentor meetings in the evening
3 help to coordinate a social activity for parents, mentors and students
21 spending some time each day communicating with my child with no distractions

3. What do you expect from the mentor program?

open ended question

(Post) Mentor Program Parent Evaluation
For each question below, circle the most appropriate answer.

TA= Tend to agree
A= Agree
D= Disagree
TD= Tend to disagree

	Percentages			
	TA	A	D	TD
1. I heard from my child's mentor on a regular basis.	19	46	22	11
2. Most of the feedback I received about my child was positive.	13	65	13	3
3. Having the support of a mentor helped me to work with my child at home.	24	56	14	6
4. I found the mailed parent information and/or parent meetings to be useful.	25	36	7	TD
5. My child feels better about him/herself as a learner since the beginning of the year.	16	61	16	7
6. The type of mentor/parent communication that worked best for me was a phone call.	24	48	21	7
7. I felt comfortable about calling my child's mentor at school.	28	55	10	7
8. I would recommend the mentor program to another parent.	22	66	8	6
9. I feel that my child benefited from the mentor program.	24	62	10	4
10. I wish that I had heard more often from my child's mentor.	12	67	15	6
11. The type of mentor/parent communication that worked best for me was a weekly checkup sheet.	15	39	29	17
12. The type of mentor/parent communication that worked best for me was a conference.	16	34	37	13
13. I attended at least one mentor/parent meeting.	18	45	22	7
14. Information about study skills helped me to be more effective in assisting my child with homework.	16	58	20	6
15. I understand the "underachieving student" better as a result of my involvement in the mentor program.	11	48	17	4
16. The mentor program met my expectations.	25	38	25	12
17. My expectations may have been unrealistic.	10	34	28	12

18. I reminded my child to remain after school with his/her mentor weekly.	14	62	21	9
	TA	A	D	TD
19. As a result of the mentor program, I was better informed about my child's grades and progress.	16	47	23	14
	TA	A	D	TD
20. I met with my child's mentor.	29	43	28	-
	TA	A	D	TD

***** **

How can we improve the program?

Open ended question

What did you like best about the program?

Open ended question

PARTICIPATION LEVEL

PERCENTAGE OF MENTEES REMAINING AFTER SCHOOL
BY QUARTER (N=100)

SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	OVERALL RATE
43.6%	47.53%	39.41%	43.53%
(6 NO REPORTS)	(6 NO REPORTS)	(14 NO REPORTS)	

Note. "NO REPORTS" means not submitted by mentor.
 A total of 14 mentors did not turn in reports.
 Movers were not dropped, but handled as zeros.
 A total of 784 hours of after school meetings for the
 total population were recorded.
 These percentages do not include in school contacts, meetings.

Underachieving Students

Underachieving students are students who have not experienced success with Program of Studies learning objectives. The Fairfax County Public Schools grading scale is used in grading underachieving students; teaching strategies are adapted to meet the needs of these students.

1. Learning Characteristics of the Underachiever

- Perform below expected ability level on standardized tests in reading, mathematics, and language arts.

Further, these students may evidence unsatisfactory performance in one or more subjects in relation to their ability to achieve.

- Demonstrate poor work habits; lack confidence to succeed, lack incentive to learn.

These students find school uninteresting, often unpleasant, and usually unrelated to their lives. Frustration with school is based on a record of having done poorly over a period of time. Because they are deficient in reading, writing, and verbal skills, these students have trouble expressing themselves. Often they do not ask questions as aids to learning and frequently say, "I don't know" rather than risk being wrong.

- Demonstrate patterns of behavior such as being either aggressive and disruptive or withdrawn and tuned out.

These students may disrupt classes and antagonize school personnel. On the other hand, some may withdraw, e.g., have a high absentee rate, arrive late to school, forget materials and assignments, and/or fail to participate in classroom discussions.

- Possess ability and potential to perform at a higher level.

These students can learn. When exposed to sympathetic and relevant teaching techniques, varied materials, and caring teachers, students' self-esteem and sense of worth improve. School performance improves correspondingly.

APPENDIX C
SCAMIN INSTRUMENT

THE SELF-CONCEPT AND MOTIVATION INVENTORY:

WHAT FACE WOULD YOU WEAR?

SCAMIN

Manual of Directions

by

Norman J. Milchus

George A. Farrab

and

William Reitz

PERSON-O-METRICS, INC.

EVALUATION & DEVELOPMENT SERVICES

20804 WILLIAMSBURG ROAD

DEARBORN HGTs., MICHIGAN 48127

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What face would you feel like wearing inside if each of the following real and imaginary situations were to happen to you? Mark how you would feel . . . (Preface each question: HOW WOULD YOU FEEL . . .)

1. . . . if you were carrying on an informed discussion on politics with your parents and their adult friends?
2. . . . if your parents were openly pleased with your schoolwork?
3. . . . if a teacher noticed that you had improved your grades?
4. . . . if a teacher picked you to lead a discussion group?

5. . . . if everyone knew that you had won a prize in a writing contest, but none of your friends even congratulated you?
6. . . . if your favorite teacher was warning the class about the dangers of being a drop-out, and he or she looked straight at you?
7. . . . if after several tries, you still could not learn to memorize a list of dates for a history class?
8. . . . if you had the responsibility to turn in a project on the last day of school and you forgot all about it?

9. . . . if you knew you could earn yourself a place on a school team if you practiced daily?
10. . . . if ten years from now, you were seeing a movie of yourself as you are now?
11. . . . if a counselor helped you to discover things that you did not know about yourself?
12. . . . if a respected adult friend asked you if you had considered going into his line of work?

13. . . . if you were trying hard to stay awake to finish some useless looking homework exercises?
14. . . . if you were trying to do a fairly hard-to-understand puzzle in mathematics?
15. . . . if you had a chance to argue a classmate out of quitting school?
16. . . . if you had to think up a short clever speech for a group of new students to the school?

GO ON TO THE NEXT PAGE

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SCAMIN -- Secondary Form

WHAT FACE WOULD YOU WEAR?

Directions: You will need a dark lead pencil and an eraser. No pens. No stray marks. Listen to special instructions, if any. Turn the response sheet on its side, and follow the directions in the name box. Print and then darken in the letters of your last name, as much of your first name as will fit, and your middle initial (MI).

Next, blacken the box for your grade; the month and year of your birthdate; your sex; and if your school issues them, your student number. Blacken each matching numeral box, and also blacken the box which underlines the semester.

Introduction: Probably no one can really know how you feel about most things. Since we often wear a "stone-face" or try to laugh off some of the things that happen to us, few people see the face that you would really feel like wearing. This questionnaire is given to better see how you and other teenagers feel about things in our school. To do this, you will be asked how you would feel inside if a list of imaginary situations happened to you.

Example: Which of the faces on the left of your response sheet would you feel like wearing inside, if a teacher told you that he thought that the legal age for driving a car should be raised by a year? Many might feel resentful or disappointed in the teacher's opinion and would pick A ("I would feel about as unhappy as I could") or B ("I would feel somewhat unhappy"). Some would answer Face C ("I wouldn't feel one way or the other"). A few might agree with the comment and feel like Face D ("I would feel somewhat happy") or even Face E ("I would feel as happy and proud as I could").

Sample Question Box: In the sample question box at the start are five answer spaces -- A, B, C, D, and E -- which match the faces and feelings. Now blacken in the space under the letter you would choose if a teacher told you he thought the legal driving age should be lowered one year. Whatever you have answered is neither right nor wrong as far as the questionnaire is concerned; your answers are your feelings.

Start: Listen carefully, and I'll read quickly. Each item must be answered only once. Erase thoroughly, and do not skip any questions. Now we'll start.

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APPENDIX D
PRE/POST ANALYSES

TABLE 4.1

ANALYSIS OF VARIANCE FOR THE POSTNEEDS
VARIABLE OF SCAMIN
ON JACKSON AND KEY

Source of Variation	SS	DF	MS	F	Sig of F
BETWEEN CELLS	462.23	1	462.23	8.99	.004*
WITHIN CELLS	3651.85	71	51.43		
TOTAL	4114.08	72	57.14		

Note. * $p < .05$.

TABLE 5.1

ANALYSIS OF VARIANCE FOR THE POSTINVESTMENT
VARIABLE OF SCAMIN
ON JACKSON AND KEY

Source of Variation	SS	DF	MS	F	Sig of F
BETWEEN CELLS	116.42	1	116.42	1.51	.224*
WITHIN CELLS	5491.50	71	77.35		
TOTAL	5607.92	72	77.89		

Note. * $p > .05$.

TABLE 6.1

ANALYSIS OF VARIANCE FOR THE POSTROLE EXPECTATIONS
VARIABLE OF SCAMIN
ON JACKSON AND KEY

Source of Variation	SS	DF	MS	F	Sig of F
BETWEEN CELLS	182.50	1	182.50	4.41	.039*
WITHIN CELLS	2940.52	71	41.42		
TOTAL	3123.01	72	43.38		

Note. * $p < .05$.

TABLE 7.1

ANALYSIS OF VARIANCE FOR THE PRESELF-ADEQUACY
VARIABLE OF SCAMIN

Source of Variation	SS	DF	MS	F	Sig of F
BETWEEN CELLS	225.90	1	225.90	4.93	.029*
WITHIN CELLS	4215.34	92	45.82		
TOTAL	4441.24	93	47.76		

Note. * $p < .05$.

TABLE 7.2

ANALYSIS OF VARIANCE FOR THE PRESELF-ADEQUACY
VARIABLE OF SCAMIN
ON JACKSON AND KEY

Source of Variation	SS	DF	MS	F	Sig of F
BETWEEN CELLS	408.73	1	408.73	10.83	.002*
WITHIN CELLS	2813.44	71	39.63		
TOTAL	3222.16	72	44.75		

Note. * $p < .05$.

TABLE 8.1

T-TEST COMPARISON BETWEEN GROUPS ON SELF-CONCEPT AND
MOTIVATION INVENTORY (SCAMIN) PRE-TEST

VARIABLE GROUP	N	PRE MEAN	SD	t	DF	p
ACHIEVEMENT NEEDS				0.83	92	0.408
EXPERIMENTAL	55	63.07	6.540			
CONTROL	39	61.79	8.358			
ACHIEVEMENT INVESTMENT				-0.46	92	0.646
EXPERIMENTAL	55	60.27	7.248			
CONTROL	39	61.05	9.093			
ROLE EXPECTATIONS				1.29	92	0.201
EXPERIMENTAL	55	56.91	6.144			
CONTROL	39	55.31	5.634			
SELF ADEQUACY				2.22	92	0.029*
EXPERIMENTAL	55	52.02	6.983			
CONTROL	39	48.87	6.453			

Note. * $p < .05$.

TABLE 8.2

T-TEST FOR PRE AND POST COMPARISON ON SELF-CONCEPT
AND MOTIVATION INVENTORY (SCAMIN)
FOR EXPERIMENTAL GROUP

VARIABLE GROUP	N	MEAN	SD	t	DF	p
ACHIEVEMENT NEEDS				1.43	108	0.155
PRE TEST	55	63.07	6.540			
POST TEST	35 55	61.13	7.650			
ACHIEVEMENT INVESTMENT				2.42	108	0.017*
PRE TEST	55	60.27	7.248			
POST TEST	55	57.13	6.331			
ROLE EXPECTATIONS				2.07	108	0.041*
PRE TEST	55	56.91	6.144			
POST TEST	55	54.53	5.903			
SELF ADEQUACY				1.09	108	0.278
PRE TEST	55	52.02	6.983			
POST TEST	55	50.62	6.488			

Note. * $p < .05$.

TABLE 8.3

T-TEST FOR PRE AND POST COMPARISON ON SELF-CONCEPT
AND MOTIVATION INVENTORY (SCAMIN)
FOR CONTROL GROUP

VARIABLE GROUP	N	MEAN	SD	t	DF	p
ACHIEVEMENT NEEDS				2.06	76	0.043*
PRE TEST	39	61.79	8.358			
POST TEST	39	58.10	7.419			
ACHIEVEMENT INVESTMENT				1.21	76	0.230
PRE TEST	39	61.05	9.093			
POST TEST	39	58.62	8.686			
ROLE EXPECTATIONS				1.44	76	0.155
PRE TEST	39	55.31	5.634			
POST TEST	39	53.15	7.475			
SELF ADEQUACY				1.12	76	0.267
PRE TEST	39	48.87	6.453			
POST TEST	39	47.26	6.307			

Note. * $p < .05$.

TABLE 10.1

CROSSTABULATION OF NUMBFAIL BY METHOD

COUNT EXP VAL ROW PCT COL PCT	METHOD		ROW	
	EXPERIMENTAL	CONTROL		
NUMBFAIL	1	13	8	21
		10.2	10.8	53.8%
		61.9%	38.1%	
		68.4%	40.0%	
		33.3%	20.5%	
	2	3	9	12
		5.8	6.2	30.8%
		25.0%	75.0%	
		15.8%	45.0%	
		7.7%	23.1%	
	3	3	0	3
		1.5	1.5	7.7%
		100.0%	.0%	
		15.8%	.0%	
		7.7%	.0%	
	5	0	2	2
		1.0	1.0	5.1%
		.0%	100.0%	
		.0%	10.0%	
		.0%	5.1%	
	6	0	1	1
		.5	.5	2.6%
		.0%	100.0%	
		.0%	5.0%	
		.0%	2.6%	
COLUMN		19	20	39
TOTAL		48.7%	51.3%	100.0%

TABLE 10.2

CHI-SQUARE TABLE OF RESULTS ON NUMBER OF STUDENTS FAILING
ONE TO SIX CLASSES (NUMBFAIL)

VARIABLES	CHI-SQUARE	DF	p-VALUE
STUDENT/CLASS FAILURE	10.17152	4	0.0376*

Note. * $p < .05$.

NUMBER OF MISSING OBSERVATIONS = 58

CELLS WITH E.F. < 5

6 OF 10 (60%)

TABLE 12.1

T-TEST COMPARISON BETWEEN GROUPS FOR NUMBER OF STUDENTS
FAILING ANY CLASS: JACKSON AND KEY

VARIABLE GROUP	N	MEAN	SD	t	DF	p
NUMBFAIL				2.42	24.91	0.023*
GROUP 2	20	2.1000	1.483			
GROUP 3	9	1.222	0.441			

Note. * $p < .05$

TABLE 13.1

CANONICAL CORRELATION ANALYSIS OF THREE SCHOOLS TO EXPLAIN
RELATIONSHIP BETWEEN PREDICTOR CRITERION
VARIABLE SETS

LIKELIHOOD RATIO	APPROX F	NUM DF	DEN DF	PR > F
1. 0.5629	2.1985	12	108.767	0.0164*
2. 0.8682	1.0251	6	84	0.4148
3. 0.9655	0.7660	2	43	0.4711

Note. * $p < .05$.

The asterick indicates the p-value of .0164 is below the .05 level of significance. Therefore, one canonical correlation is significant and can explain the relationship between variable sets. The first canonical correlation explains 54% (eigenvalue 0.5423) of the variance between the X set (predictor/independent measure) and the Y set (criterion/dependent measure). The first canonical correlation explains with statistical significance the relationship between the two variable sets ($p = .0164$), while the other canonical correlations do not explain with statistical significance the relationship between the two variable sets.

TABLE 14.1

CANONICAL STRUCTURE ON THREE SCHOOLS:
GLASGOW, JACKSON AND KEY

CORRELATIONS BETWEEN THE "VAR" (CRITERION) VARIABLES
AND THEIR CANONICAL VARIABLES

	CC1	CC2	CC3
POST	0.9265*	-0.1284	0.3537
FAIL	-0.0187	-0.7179**	0.6959***
NUMBFAIL	-0.6342*	0.7662**	0.1037

CORRELATIONS BETWEEN THE "WITH" (PREDICTOR) VARIABLES
AND THEIR CANONICAL VARIABLES

	W1	W2	W3
METHOD	0.3759	0.5768**	-0.1111
EAS	0.3609	0.8179**	0.0096
GSV	0.6659*	0.5023**	0.4243***
PRE	0.8272*	-0.0856	0.5420***

Note. Descriptively, the correlations indicate the following:

*CC1: Overall, the higher the GSV (composite) score and the pre GPA score, the higher the post GPA and the fewer number of classes failed. This relationship is explained at the .05 level of significance ($p=.0164$)

**CC2: Students from Jackson Intermediate who had high EAS (ability) scores and moderately high GSV (composite) scores failed more classes and failed a greater number of classes. Compare this with the finding in CC3 of Table 14: Students with lower EAS (ability) scores and lower GSV (composite) scores did not fail classes.

***CC3: Overall, students with lower GSV scores and moderately high pre GPA scores failed fewer classes.

Canonical redundancy analysis indicates that the criterion variables cannot be predicted by the predictor variables.

TABLE 14.2

CANONICAL STRUCTURE ON TWO SCHOOLS:
JACKSON AND KEY

CORRELATIONS BETWEEN THE "VAR" (CRITERION) VARIABLES
AND THEIR CANONICAL VARIABLES

	CC1	CC2	CC3
POST	0.8519*	0.3778	0.3627
FAIL	0.0087	0.9974**	-0.0720
NUMBFAIL	-0.8236*	-0.3537	0.4433***

CORRELATIONS BETWEEN THE "WITH" (PREDICTOR) VARIABLES
AND THEIR CANONICAL VARIABLES

	W1	W2	W3
METHOD	0.4291*	-0.2328	-0.8345***
EAS	0.2602	-0.4763**	0.5991***
GSV	0.6238*	-0.6036**	0.4206***
PRE	0.6779*	0.7076	0.1819

Note. No canonical correlation explained with statistical significance ($p=.0637$). However, all three canonical correlations can be used to explain the relationships. Descriptively, the correlations indicate the following:

*CC1: Key students with higher GSV (composite) scores and pre GPA scores and failed fewer classes.

**CC2: Overall, students who had lower EAS (ability) scores and GSV (composite) scores did not fail classes. Compare this with CC3 of Table 14 (a similar finding).

***CC3: Jackson students who had moderately high EAS (ability) and GSV (composite) scores failed a greater number of classes. (Similar finding reported in tables 14 and 14.1 for CC2).

Canonical redundancy analysis indicates that the criterion variables cannot be predicted by the predictor variables.

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