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Master's Thesis and Field Study Abstracts

July 1980/June 1982

MASTER'S THESIS AND FIELD STUDY ABSTRACTS

Forward

This publication, the ninth in a series which began in 1957, contains the abstracts of Master's Theses and Field Studies completed by graduate students of St. Cloud State University. The bulletin contains those theses and field studies completed during the period from July of 1980 through June of 1982.

A bound copy of each thesis or field study is on file in the Learning Resources Center, which houses the library on this campus. The library copy of each thesis and field study is available for use on an interlibrary loan basis.

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COLLEGE OF EDUCATION

CHILD AND FAMILY STUDIES

MOTHER-FATHER DIFFERENCES IN THE USE OF DISCIPLINE STRATEGIES WITH CHILDREN AGES TWO-FOUR YEARS

Mary Catherine Ketter Carle

This study represented an attempt to identify differences in reported mother-father discipline practices. Subjects were 20 mothers and 13 fathers of children between the ages of 2 and 4 years. All subjects were white, middle income, from a small midwestern city. All of the mothers and two of the fathers were active participants in a parent-child education program. Mothers and fathers did not differ in the range of reported discipline strategies used. However, the within parent pairs analyses revealed that in 4 of the 12 parent pairs, mothers reported using significantly more strategies than did fathers. One significant difference was noted in frequency of use of separate strategies. Fathers were more likely to use "rewards" and mothers to use "time-outs." Additional findings include the following: (1) parents used a broader range of responses with their two year old children than they did with three and four year old children; (2) parents reported "spanking" male children more often and "discussing" disobedience more frequently with female children; (3) parents who were not participants in the parent-child educational program were more likely to "spank" their children than were program participants. Parents who did attend the program were more likely to use the strategy "time-out" than were non-participating parents.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981
Jack Mayala, Chairperson

AN EXAMINATION OF THE RELATIONSHIP BETWEEN TYPE A AND B BEHAVIOR PATTERNS AND FANTASY PREDISPOSITION WITH CHILDREN AGES 4-5 YEARS

Susan Jane Scott

This study represented an attempt to examine any relationships between type A and B behavior patterns and fantasy predisposition levels in young children. Subjects were 17 female and 16 male, 4-5 year olds, enrolled in day care facilities located in the suburban area of a large midwestern city. Subjects were predominantly Caucasian and from the lower-middle and middle socioeconomic classes. The MYTH checklists, measuring type A and B behavior patterns, were completed by the children's teachers. The IPP interviews, measuring fantasy predisposition levels, were completed on a one-to-one basis by the researcher. Results indicated significant inverse relationships for the entire sample,

females only, and males only. Thus, type A behavior patterns were related to low fantasy predisposition levels and type B behavior patterns were related to high fantasy predisposition levels.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Jack Mayala, Chairperson

EDUCATIONAL ADMINISTRATION

AN APPRAISAL OF CERTAIN FACTORS OF ENERGY COST EFFECTIVENESS IN SELECTED MINNESOTA SCHOOLS

Scott J. Anderson

THE PROBLEM: In examining the escalating costs of new construction, retrofit of existing buildings becomes a viable option and alternative. This concept of retrofit relates to: 1) conduction; 2) infiltration; 3) radiation; 4) heating and ventilation; and 5) lighting in the Osseo School District will be presented in this study. From these results, judgments were made relative to specific circumstances and needs.

RESEARCH PROCEDURES: Essentially, the author employed a descriptive, non-hypothecated research design. The questionnaire employed by the author contained what may be regarded as components or criteria variables in contrast to the predictor variables of head custodial personnel. This contrast produced differences between the items and the beforesaid groups.

The questionnaire was administered by the author among the head custodians of Independent School District #279 schools. Each questionnaire contained 26 questions which were analyzed on a five point scale (Strongly Disagree, Disagree, Undecided, Agree, and Strongly Agree). The purpose of the responses was to determine those retrofits deemed most important by the respondents.

Profile analysis was used extensively to portray awareness of school building retrofit to more cost-efficient energy revisions and adaptations in Osseo School District #279.

FINDINGS: The information gathered from the aforehand mentioned survey was organized into two sets of findings: 1) General Findings, which included a group description and total responses from the population, and 2) Specific Findings which included analyses of means and variance, item analysis and cluster analysis. Based on these findings, these conclusions were evident: 1) that there was general agreement among the population about the concept of energy awareness; 2) that the cluster of Heat Gain and Loss was the area which was weakest in general agreement; 3) that the Heating Unit and its appropriate sizing was the single item in least agreement; and 4) that Insulation was the cluster category in greatest agreement.

RECOMMENDATIONS: The author made the following recommendations: 1) the

addition, redistribution, or replacement of present insulation; 2) the installation, addition or replacement of weatherstripping; 3) the removal of, replacement of, or addition to any existing window units; 4) the "tune up" of, replacement of, or revision to heating or ventilation units; and 5) the replacement of "inefficient" lighting units, the removal of, or addition of lighting units to higher standards of energy efficiency. It was assumed that the above investigations would be performed relative to maintaining the learning environment.

APPROVED BY RESEARCH COMMITTEE, MARCH 1981
George A. Farrah, Chairperson

PLANNING FOR RETRENCHMENT: A SURVEY OF FINANCIAL MANAGEMENT PLANS
IN REGION VII ECSU SCHOOL DISTRICTS AS PROPOSED TO MEET THE
PROBLEMS CAUSED BY CHANGES IN THE FUNDING ARRANGEMENTS FOR
THE 1982-1983 SCHOOL YEAR

Norma Jean Damerow

THE PROBLEM: This study was a survey of the effects of a reduction in state aids upon educational programs in some Minnesota school districts. The reductions came with little notice or time for planning.

THE REVIEW OF LITERATURE: The literature revealed that federal and state involvement in school financing has increased over the past twenty-five years. The trend has been reversing in the past five years as citizens demand reduced taxes and government spending. Schools in Massachusetts and California have felt the impact of this latest trend and the results are significant. The loss of funding has resulted in the loss of staff, services, programs, and materials and a deterioration in both student and staff morale and productivity. Minnesota's economic problems of the past two years have stemmed from revenue shortfalls as a result of a lagging economy. These shortfalls were then passed on to the schools as reduced aids.

RESEARCH PROCEDURES: The design of this study involved the use of a questionnaire composed of four parts. The questionnaire was sent to the superintendents of each of the school districts in ECSU Region VII. Part I asked for characteristics of the district in terms of size and stability. The researcher provided information on operating expenditures and operating fund balances. Part IIa asked to what degree each school program would be affected by the reduced funding. Part IIb assessed the reductions by object. Part III asked for subjective comments.

The analyses of data were reported in terms of simple percents, correlation coefficients, and confidence intervals to test the range of probability for the coefficients.

CONCLUSIONS: It was learned that 1) nearly all districts needed to cut expenditures and most were making use of a number of revenue raising options, 2) expenditure reductions were generally held around the 5 percent level and were applied to all programs, 3) very few programs were eliminated entirely, and 4) many districts were trying strategies such as all-day kindergarten to reduce costs.

RECOMMENDATIONS: A more extensive study of education's response to the state's financial problems should be carried out. The study should look at a broader sample and a longer time line. Results of any such study should be shared with educators, legislators, and school boards.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1982
George A. Farrah, Chairperson

A STUDY OF THE AMERICAN WAY OF LIFE

Raymond Lee Davis

PROBLEM: The primary purpose of this study was to survey the opinions of junior and senior high school students in rural and urban schools about items relating to education and cultural aspects. A secondary purpose was to compare experts' opinions with students' opinions on seventeen key items within the same framework of the "American Way of Life."

REVIEW OF LITERATURE: A search of the literature revealed a paucity of literature relevant to the themes of conventions, sentiments, and practices--especially as they related to the area of citizenship. Considerable information was derived from David Riesman's "inner-directed" versus "other-directed" polarity structure in the socialization process. Another important source was found in George A. Farrah's research dealing with model building and surveying of opinions in certain categories (i.e., education, cultural aspects, etc.).

RESEARCH PROCEDURE: A forty item questionnaire developed by Farrah was administered to 829 junior and senior high school students in both urban and rural areas in Minnesota.

The treatment and reporting of data--essentially contrasts between experts' (Morals) opinions on students' (Mores) opinions and rural versus urban--appeared as general and specific findings.

Analyses of means and variance were depicted in tabular and profile forms.

FINDINGS: The conclusions derived were as follows: 1) there was more agreement in the rural than the urban samples in the categories of Education and Cultural Aspects, 2) the experts disagreed with more items than did the students who showed considerable indecision in both categories, and 3) the indecision of students was evident in key Education ideas as there being "equal educational opportunities" and "faith in democracy equating diversity."

RECOMMENDATIONS: It was recommended that designs dealing with moral and citizenship education be an ongoing process in the home, school, and community; that educators and parents should employ various techniques to recognize the important role that diversity (i.e., sex, age, religion, race, and customs) plays in a heterogeneous society; and that teachers, via the social studies, use various points of entry in assisting students' awareness of sentiments, practices, and conventions in the "American Way of Life."

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
George A. Farrah, Chairperson

AN APPRAISAL OF FACTORS WHICH INFLUENCE THE EFFECTIVENESS OF PARENT-TEACHER CONFERENCES

Thomas M. Glatch

THE PROBLEM: Conferring with parents is a major responsibility for teachers. It appears that not enough is being done to refine the process and utilize the parent-teacher conference as the foundation for reporting pupil progress in school.

This study was a descriptive appraisal of factors that contribute to effective communication during parent-teacher conferences. The purpose of this study was to identify the degree of "coincidence," among teachers and parents, in their responses to statements in six topic areas: 1) the circumstances of parent-teacher conferences, 2) the importance of parent-teacher conferences, 3) the expectations of parent-teacher conferences, 4) the comfort level of parent-teacher conferences, 5) the characteristics of parent-teacher conferences, and 6) the role expectations of participants in parent-teacher conferences.

RESEARCH PROCEDURES: A survey instrument was designed to collect data from 100 teachers and 100 sets of parents of elementary school age children in ten schools. The survey consisted of thirty-six statements that elicited scaled responses in the aforementioned topic areas.

Initially a Chi-Square cross tabulation of variables identified any possible significant comparisons. These identified comparisons were statistically treated using the analysis of means and variance treatment models. A "t" Test was available to cross check the data.

FINDINGS: This study produced numerous significant findings that verified the importance placed upon parent-teacher conferences as a model for communicating pupil progress in school. Findings also indicate the understandings participants have of their responsibilities and that of their counterpart. Interestingly, parents and teachers agreed on the majority of their responses.

RECOMMENDATIONS: In terms of the general information gleaned from this study, it seems appropriate to recommend that parent-teacher conferences should serve as the model for reporting pupil progress in school and that methods should be devised to develop an awareness of responsibilities in parent-teacher conferences. Most important, this study should serve as an instrument for continued appraisal of parent-teacher conferences on both a local and regional scale.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
George A. Farrah, Chairperson

A STUDY OF THE SOCIAL AND ORGANIZATIONAL IMPACT OF THE NSP GENERATING PLANT UPON THE COMMUNITY AND SCHOOL DISTRICT AT BECKER, MINNESOTA

Louis Husmann

PROBLEM: This descriptive and non-hypothecated study identified the social and organizational implications, and the sudden impacts caused by the infusion of a major industry into a small rural community.

RESEARCH PROCEDURES: Via an inductive approach, a sample of the community was surveyed with a scaled questionnaire designed to gauge the degree of changes perceived by the respondents. The stratified random sample of school district residents included 94 household units who responded to five major categories of questions. These five categories included the issues of (1) economics, (2) community organization, (3) business and industry, (4) education, and (5) family and neighborhood. Since these data were parametric, both analyses of means and variance were utilized. Contrasts were made between the clusters and the variables of sex, age, family status, housing, length of residence in the community, and number of children.

FINDINGS: The most salient findings of the study were:

1. The sample population perceived that the greatest impacts from the large coal-fired generating plant were: (a) improving school facilities, (b) attracting new people into the community, (c) providing job opportunities, (d) lowering property taxes, and (e) improving education.

2. While the community has been affected economically, personal income and standard of living has remained unchanged; yet, 66 percent of the respondents believed that the overall quality of life had improved in the community.

3. The general category of education was perceived by the sample population as having improved the most. In addition to improvements in the school facilities, improvements were seen in education for all ages and in attracting qualified teachers.

4. Significantly, no changes were seen in many of the community's social concerns. Confidence in government, communications with elected officials, and family and neighborhood relationships, were examples of areas that had not changed.

RECOMMENDATIONS: Based on the aforesaid findings, it was recommended that:

1. The Becker schools work towards building public confidence by improving instructional programs and developing plans for achieving educational goals. Additional studies ought to be done to determine the relative cost effectiveness of programs.

2. The citizens of the Becker community should attempt to identify common goals and purposes around which they can build trust, leadership, and community improvements. Private enterprise must begin to develop now that the governmental services are so well provided.

3. Other communities that have the potential for growth, should plan for community development, but they must plan for the sociological and organizational impacts that will occur as well as the industrial growth.

APPROVED BY RESEARCH COMMITTEE, MAY 1981

George A. Farrah, Chairperson

A STUDY OF PHILOSOPHIC BELIEF COMPATIBILITY BETWEEN PARENTS AND EDUCATORS FOR THE PURPOSE OF IMPROVING COMMUNICATIONS

Curtis D. Hutchens

PROBLEM: The primary purpose of this study was to evaluate philosophic belief compatibility between parents and educators for improving parent-school relations in evaluating student progress. Another important purpose of this study was to develop an instrument school districts could use, that would be

reliable and accurate enough in nature to aid educators in improving communications with parents.

PROCEDURE: An initial pilot study and related literature were used to help develop the Hutchens Teacher Belief Inventory which consists of three parts. Part I, consisted of 55 statements developed around five educational philosophies requiring a scaled response from strongly disagree to strongly agree. Part II, requested respondents to rank five categories of information according to how important it was in receiving information from the school. The final part of the instrument was an open-end question which asked, briefly relate what you feel would be the most important things for a school to report to you about your child's experiences.

The responses were divided into four predictor variable groups which included the following information from each respondent: 1) age, 2) education, 3) gender, and 4) occupation. One hundred fifteen people around the state of Minnesota responded to the instrument.

The analyses and interpretations of the study were made from the items on the questionnaire which were significant at the $p \leq .05$ level by an analysis of variance.

FINDINGS: The analyses and interpretations of the significant items revealed several areas of agreement and disagreement between the subgroups of the predictor variables. This study revealed that:

1. The majority of the 55 statements showed a high degree of compatibility between parents and educators.

2. The results indicated a high degree of compatibility between parents and educators, in relationship to the five philosophy groups as a composite.

3. Educators ranked the statement related to receiving information on the child's social adjustment with his/her classmates much higher than parents.

4. Respondents who answered the open-ended question were most concerned about the child's academic progress and the child's social adjustment.

RECOMMENDATIONS: The conclusion of this study presents a number of recommendations based upon the aforesaid analyses and interpretations. These recommendations along with an established inventory should help school districts evaluate local communication potentials surrounding the programs and practices of evaluating student progress to parents.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
George A. Farrah, Chairperson

THE INFLUENCE OF PARENTAL BACKGROUND IN THREE PRESCHOOL PROGRAMS

Patricia L. Jensen

THE PROBLEM: Preschool education has grown rapidly in the United States in the past several years. In a pluralistic society, it is not surprising that many different types of programs have begun, each claiming to educate young children in the "best" manner.

Three questions were posed in this descriptive study: (1) What are identifiable characteristics of parents who enroll their children in selected preschool programs? (2) Are there certain factors of parents' backgrounds that seem to influence their attitudes toward preschool education? (3) Which aspects of preschool education appear to have differences of opinion of their

importance among parents?

REVIEW OF LITERATURE: Philosophers such as Rousseau and Froebel were reviewed, and the theories of Piaget and Montessori were discussed. From the review of the literature, three preschool programs with differing emphases were selected for study. They were: (1) The Seton Hall Project, which has a heavy parent involvement; (2) The Gaetz Nursery School, a private school emphasizing child development theories, and (3) The Montessori School, which utilizes materials and methods developed by Maria Montessori.

RESEARCH PROCEDURES: Telephone interviews were held with the parents of four-year-old children enrolled in these three programs during the school year 1976-77. A cooperative survey was developed with the assistance of Dr. George Farrah. This questionnaire was used to gather information about the parents' backgrounds and their reasons for selecting one of the three preschool programs. The parents were asked to evaluate twelve features of their own educational experiences and also of their child's preschool program. The scaled responses were subject to t-test to determine significant differences among the sub-groups of parents.

FINDINGS: Families in this study tended to be small and from the middle income level and above. Most of the parents had first learned about the program from a friend, and most had visited the school before enrolling their child. Tuition costs, transportation, and the employment of the mother did not appear to be factors in the selection of the program for most families.

The current preschool enrollment of a child made no difference in the responses to any of the individual items on the questionnaire. The greatest number of differences came from the previous preschool program in which the family had enrolled a child. The second largest number of differences came from the differences in the educational level of the father.

The items on the survey receiving the most responses with significant differences were the teaching of respect; self-esteem; being welcome to observe and confer at any time; and the development of muscular coordination.

RECOMMENDATIONS: It is recommended that: (1) educational programs need to be sensitive to making parents new to their program feel welcome to observe and confer; (2) programs should be designed to make a student feel good about himself/herself a priority; (3) since parents had differing viewpoints as to the importance of teaching respect and muscular coordination, preschool programs need to communicate with parents about their program's emphases in these areas; and (4) further study is needed on the significance of the father's educational level as a factor in preschool evaluation.

APPROVED BY RESEARCH COMMITTEE, MARCH 1981

George A. Farrah, Chairperson

A DESCRIPTIVE APPRAISAL TO DETERMINE THE EFFECTS OF CERTAIN FAMILY CHARACTERISTICS ON STUDENT PERFORMANCE IN TERMS OF SELF-CONCEPT AND MOTIVATION PRIOR TO THE ADMITTANCE TO SCHOOL

Karl C. Kieffer

THE PROBLEM: The Mid-State Education Cooperative, five independent school districts (i.e., Little Falls, Pierz, Royalton, Swanville and Upsala) was

seeking a tool which lent itself to providing measures of academic readiness. These institutions have historically been making academic predictions on a cognitive basis and welcome the thought of an instrument that provides an effective and objective means of predicting student success as it relates to the affective domain.

REVIEW OF LITERATURE: There was a paucity of information concerning the assessment of Self-concept and Motivation of Pre-school children. The bulk of reliable information was developed from the nation-wide studies of Dr. George Farrah and his associates at Wayne State University, Detroit, Michigan.

RESEARCH PROCEDURES: The kindergarten teachers in each of the nine attendance sites administered the SCAMIN under the guidance of the author prior to the second week of school. Since the total population was included in the study, the teacher selected the day and time that was most convenient to the children and school to administer the student inventory. The instrument was read to the children in small groups of not more than ten children in each group.

The parent data sheet was sent to each household after receiving approval through district office. To obtain permission, an appointment was arranged with each district superintendent to discuss the project and their schools' participation.

FINDINGS: From the statistical statement of hypotheses relating to the sixteen independent variables listed on the parent questionnaire, seven were found to be significantly different. In terms of the motivational component of the SCAMIN, five variables were determined significant. However, among the same sixteen indices only two were found to be related to Self-concept.

It was quite obvious that Achievement Need (AN) was the dominant factor which was significantly related to various parents' characteristics.

RECOMMENDATIONS: In view of the large amount of pertinent data generated by this study, especially the linkage found between the two sets of responses, the author feels it would be advantageous for all school systems to find a technique for measuring a child's home environment. Moreover, treatment models must be implemented to parallel the assessment tool used so that it will directly deal with the enhancing of the motivational aspect of learning.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981
George A. Farrah, Chairperson

A STUDY OF THE UTILIZATION OF SHORT COURSES AS A VIABLE SOURCE OF STAFF INSERVICE IN ANOKA-HENNEPIN DISTRICT NO. 11

Jean M. Kincanon

PROBLEM: This study attempts to evaluate the appropriateness and effectiveness of short courses, used as one mode of delivering inservice education, in Anoka-Hennepin Independent School District No. 11.

PROCEDURE: The procedure was a descriptive study based on opinions which were solicited through a survey from teachers and administrators who had participated in the short course sessions. Personal interviews were also conducted through a random selection of the population.

The survey statements addressed such critical aspects of in-service education as: content covered, comfort level of the setting, presentation of the material, motivation for attendance, and outcomes of the endeavor.

FINDINGS: Educators were motivated to attend in-service programs when they were brief in length, geographically convenient, held in a comfortable setting, and offered continuing education credit.

Relevant topics, practical information, and activity-oriented presentations were viewed by the participants as being successful in-service sessions.

Voluntary attendance at a variety of in-service topics met individual differences among adult learners.

CONCLUSION: Short courses are acceptable as one mode of delivering in-service education.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981
George A. Farrah, Chairperson

A DESCRIPTIVE STUDY OF MINNESOTA MIDDLE SCHOOLS IN 1980

George E. Kraemer

THE PROBLEM: The primary purpose of the author's descriptive study was to identify the features of Minnesota Middle Schools, and to analyze any changes in these schools through comparisons of information gathered in earlier Minnesota surveys and recent national surveys.

RESEARCH PROCEDURES: Rather than a random selection, the sampling included the use of the current Minnesota State Directory of Schools to identify the 440 school districts located in the state. A packet of materials was mailed to the superintendent of schools of every school listed in the directory.

The questionnaire used in this study was the same instrument, with minor changes, as the one used in previous study of six upper midwestern states. The analyses of data consisted of simple percentages.

FINDINGS AND CONCLUSIONS: Via a state-wide survey, it was ascertained that: (1) two-thirds of the 38 responding Middle Schools are located out-state; (2) most Minnesota Middle Schools are organized with grades 6-8; (3) the average enrollment of these schools is 400-600 students; (4) two-thirds of Middle School teachers in Minnesota have a secondary license; (5) most Middle Schools were established to provide a better instructional program for students of this age; (6) special personnel are provided in most schools to meet students' special needs; (7) traditional class organizations are employed by most Minnesota Middle Schools; (8) pupil progress reports still employ letter grades in tandem with parent-student-teacher conferences; (9) the principal has the responsibility of the Middle School curriculum; (10) most Minnesota Middle Schools are housed in old secondary buildings; (11) the self-contained classroom is used only in a few schools and at the lower grade levels; (12) only four Middle Schools in Minnesota are members of the North Central Association; and (13) curricular aspects are quite varied from one Middle School to the next.

RECOMMENDATIONS: The author recommends that: (1) Middle Schools should strive for more time and flexibility; (2) Minnesota should develop procedures for the licensure of Middle School teachers; and (3) all students should be provided with an opportunity to participate in activities so they might develop to their full potential.

APPROVED BY RESEARCH COMMITTEE, MARCH 1981
George A. Farrah, Chairperson

A DESCRIPTIVE STUDY OF STRESS IN THE VARIOUS ROLES OF THE HIGH SCHOOL PRINCIPAL IN RANDOMLY SELECTED MINNESOTA PUBLIC SCHOOLS

Ronald K. Lockwood, Sr.

THE PROBLEM: The purpose of this study was to investigate the events and situations occurring in the everyday life of the head secondary principal in selected Minnesota high schools to determine if any of these factors was causing increased stress. No formal research of stress situations which could serve as possible reasons for job exodus was found for Minnesota secondary principals. Furthermore, the author was encouraged by the formal research findings of Dr. George A. Farrah whose studies involved self-concept motivation and stress factors relating to self esteem in two distinct studies ongoing for the past 13 years.

RESEARCH DESIGN: The data were developed from responses to a survey questionnaire mailed randomly to a selected group of Minnesota secondary principals. Analyses included content analysis, simple percent, an adjusted frequency and analysis of means and variance relating to: 1) family and self, 2) physical, 3) community, 4) work overload, and 5) school entity.

FINDINGS: The principal findings were that: 1) administered in rural, agriculture-based communities slightly over 2,500 in population; 2) had office hours of 7:23 a.m. to 4:37 p.m. with an average of 9.14 hours daily; 3) averaged 55.42 hours in regular school hours; 4) averaged a 65-hour work week on the average during the regular school year; 5) did not have a working spouse outside of homemaking.

A definite pattern emerged. Principals in communities of 2,500 or less are more stressful, have poorer self-concepts of themselves and are more apt to leave the profession than are their counterparts in communities of 2,500 to 10,000, 10,001 to 25,000 and 25,000 or more.

Cross impact analysis revealed that only community situations were likely to cause severe stress, but, workload situations cited lack of time and in some groups lack of skills to accomplish the duties successfully.

Furthermore, definite linkage was found between Farrah's self-concept instrument items that produced stress, namely work overload and lack of self esteem, and the findings of this field study.

Antagonism was cited in three separate degrees by an important finding of Farrah comparing optimum living conditions as opposed to actions which lead to unhealthy physical and mental conditions. This recent finding, shown graphically in Farrah's Verbal Stress Continuum, confirms that not only are these antagonistic forces present, but that they lead to a negative and

sometimes combative atmosphere unhealthy for optimum educational advantages as expected by today's society.

RECOMMENDATIONS: Decision makers should direct their attention to settings that enhance self-concept, better utilization of time, and cooperative efforts to improve school climate.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
George A. Farrah, Chairperson

SELF-CONCEPT AND MOTIVATION OF TEACHERS PLACED ON UNREQUESTED LEAVE

Janet L. Olson

THE PROBLEM: The purpose of this study was to determine whether or not there is a difference between the scores of teachers placed on unrequested leave and the scores of teachers in a norming group on indices of the Academic Self-Concept and Motivation Inventory for Teachers (SCAMINT). The author also compared the scores of teachers in this study to the scores of teachers in a stress sample.

RESEARCH PROCEDURES: Analysis of variance (ANOVA) was used to examine the independent variables of sex, marital status, age, number of children, level of teaching experience, number of years of teaching experience, current work status, and number of years unrequested leave notices have been received in relation to the cluster items of the SCAMINT. These cluster items include: Self-Adequacy, Personal Investment, Role Expectations, Goal Needs, Administration, Pupils' Parents, Other Teachers, Pupils, Activity Climate, and Academic Activity. The SCAMINT was sent to thirty-five teachers who had been placed on unrequested leave in Independent School District 742, St. Cloud, Minnesota in the spring of 1981. Twenty-eight of the thirty-five teachers were the respondents in this study.

THE FINDINGS: The statistical evidence shows that the scores of the teachers in this sample were significantly higher than the scores of teachers in the established norms. Further, the scores of teachers in this sample are quite similar to the scores of the stress sample teachers. The initial notice of unrequested leave appears to have the greatest negative impact on the self-concept and motivation of teachers in this sample. Subsequent notices of unrequested leave seem to have little impact on their self concept and motivation. In fact, the self-concept and motivation appears to grow as the number of unrequested leave notices increases. Scores of the teachers in this sample were found to be very similar to the scores of a group of outstanding teachers in District 742.

RECOMMENDATIONS: It is recommended that further study be done using an instrument which measures stress and self-esteem, as well as self-concept, in the population of this study. Also, a study of grief process of this population needs to be done to determine the duration of the stages of grief and to discover how anger is handled by these teachers.

APPROVED BY RESEARCH COMMITTEE, MARCH 1982
George A. Farrah, Chairperson

A DESCRIPTIVE-HISTORICAL STUDY OF AN ORGANIZATIONAL DESIGN IN A DISTRICT 281 HIGH SCHOOL

Merle L. Solie

PURPOSE: The purpose of this study was to evaluate a unique organizational design for a suburban senior high school. The organizational design under consideration was a compromise from the modular flexible design on one end of the continuum and the traditional six period day on the other end of the continuum. Areas under consideration were in course selection, students unstructured time, length and frequency of class meetings, size of group meetings and the type of organizational design.

RESEARCH PROCEDURES: Descriptive research involved sampling both the educational staff of Cooper Senior High School, which included 89 male and female teachers, 6 counselors and 4 administrators, and the student body which was composed of 95 seniors. Two questionnaires, one appropriate for each, yielded information in terms of staff characteristics versus items; however, in the case of the students only the opinions were considered. The analyses of data involved the Chi-square technique for the significance of relatedness.

FINDINGS: The findings indicated: (1) that students should not be limited to the number of course selections, (2) that their unstructured time should not be limited, (3) that courses do not have to meet daily and for the same period of time, (4) that smaller group size was preferred, (5) that the high school should remain on their eight period optional-block type of schedule.

RECOMMENDATIONS: The author concluded that the staff and the student body at Cooper Senior High School are very well satisfied with the organizational design they are now working under and that they should not change to another type of design. However, pertinent recommendations include (1) periodic evaluation of the students' unstructured time, (2) daily meetings of classes is not needed, and (3) there should be a cooperative effort between the students and staff to establish time patterns for courses.

APPROVED BY RESEARCH COMMITTEE, MAY 1981
George A. Farrah, Chairperson

A STUDY TO ASSESS THE WAYZATA ALTERNATIVE SCHOOL

John A. Waight

PROBLEM: This was a descriptive, ex post facto study to assess the general effectiveness of the Wayzata Alternative School programs. The main thrust of this study was to assess the differences, if any, in teacher and parent perceptions of the effectiveness of the Wayzata Alternative School program.

RESEARCH PROCEDURES: A sample selection of one hundred fifty-six parents and forty-four teachers was involved in the study. A questionnaire, developed by community members, teachers and administrators was administered to the one hundred fifty-six parents and forty-four teachers. Statistical procedures included both the analyses of means and variance.

FINDINGS: Of the twenty-one item Home Survey, the variable of the Wayzata Alternative School vs Mainstream parents had the highest number of questions which were significant at the $p \leq .05$ level. There were 17 of 21 questions with a $p \leq .05$ level of significance (i.e., the null hypothesis was rejected). Of the 17 questions that were significant, the working hypothesis, stating that there would be a difference in teacher perception and parent satisfaction between parents of Wayzata Alternative School students and parents of Mainstream students, was accepted. The null hypothesis was also rejected for the four remaining questions: the Wayzata Alternative School parents tended to be more strongly in favor of how the program was succeeding than the Mainstream parents. The research also showed that the teachers in the Wayzata Alternative School program felt the program to be a success, while the teachers of Mainstream classes showed more undecided feelings.

RECOMMENDATIONS: As a result of the research in this paper, the author recommends: 1) that community needs be assessed on a regular basis; 2) that further research be conducted on the differences in attitudes of teachers in the Wayzata Alternative School and Mainstream; 3) that a follow-up study be done using students and parents of students who have been in either program and are now in junior high; and 4) that the reasons for teachers changing from one program to the other be studied.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
George A. Farrah, Chairperson

ELEMENTARY EDUCATION

JOB SHARING IN THE ELEMENTARY SCHOOL: A MINNESOTA CASE STUDY

Sandra L. Bennetts

PROBLEM: The traditional single homeroom teacher staffing model used in American elementary schools does not meet the personal and professional needs of many teaching mothers. The career teacher who wants to remain active in the profession and also wants to spend more time at home with her family is forced to choose between the two. When teaching positions are scarce, and in cases where the family depends on two incomes, the choice is especially difficult. Under these conditions, a leave of absence is not a real solution to the problem. This study is an examination and evaluation of a concept proposed by two Kimball, Minnesota, elementary teachers as a viable alternative to the traditional model. They requested that they be permitted to share a classroom on an alternate week basis. The request was approved by the school board and the concept tested during the 1979-80 school year.

PROCEDURE: Evaluation of the shared teaching program focused on a defense of the hypothesis that shared teaching is a viable alternative to the traditional single teacher model in meeting the personal and professional needs of teaching mothers. To test this hypothesis, data were collected to enable an evaluation of the perceptions of the individuals in those populations directly or

indirectly affected by the program. At the conclusion of the shared teaching year, questionnaires were sent to all homeroom and non-homeroom students and their parents, teacher colleagues, teacher aides, members of the school board, the school principal and the district superintendent. The participating teachers also evaluated the program. The information thus collected was tabulated and interpreted in light of the program objectives and the hypothesis.

FINDINGS: Each of the populations questioned had generally positive perceptions of the concept and the experimental year. There was variance between individuals within populations and between populations as to the strength of both positive and negative perceptions, but none of the groups questioned reacted negatively and most had very positive perceptions. The participating teachers judged the program a success, by both personal and educational standards.

CONCLUSIONS: Given the generally positive perceptions of the shared teaching experience by all of the groups and the vast majority of the individuals questioned, it is the conclusion of this study that shared teaching is a viable alternative to traditional staffing models in meeting the needs of teaching mothers.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Russell H. Schmidt, Chairperson

AN ASSESSMENT OF THE IMPLEMENTATION OF THE PROJECT SMART MATHEMATICS PROGRAM AT THE LINCOLN MODEL NONGRADED SCHOOL, STAPLES, MINNESOTA

Ray W. Gildow

In 1974 and 1975 a great deal of attention began to focus on declining test scores throughout the United States. The Staples, Minnesota Public School District 793 recognized that local scores, too, were on the decline and decided to do something about it. In the spring of 1976 a thorough needs assessment was conducted in the district, and as a result of the study, a priority need was established to improve mathematical computation scores in the elementary grades. After evaluating different mathematical programs around the nation, the decision was made to adopt a nationally validated mathematics program entitled Project SMART. This is a study evaluating the impact of the Project SMART program replication during the two school years 1976-77 and 1977-78 at the Lincoln Model Nongraded School, Staples, Minnesota.

The program was implemented in the fall of 1976 to students in grades four, five, and six. Although students were tested by grade level, all instruction in the program was done through a nongraded approach.

The study evaluated the hypothesis that students at the Lincoln Model Nongraded School, utilizing the Project SMART program, will improve in mathematical computational gain scores as measured by the mathematical section of the Stanford Achievement Test.

The analysis of data was on a time series rather than the control group versus experimental group study. Student achievement was analyzed on fall-spring test results measured in terms of Normal Curve Equivalents (NCE's). The t -test of difference scores was used to determine statistically significant differences between fall and spring test data at the $p \leq .05$ level.

FINDINGS: Two of the four groups involved in the study achieved gain scores that were significant at the $p \leq .05$ level. A third group exhibited a slight decline in NCE scores during the first year of the program, although not significant, and finished the program with an increase in NCE scores. The fourth group was only involved in the study for one year and did exhibit an increase in NCE scores, however, the increase was not significant at the $p \leq .05$ level.

The author of the study cautiously concluded that with certain groups in the study, the hypothesis was supported. Although the other two groups in the study did not achieve significant gains, neither did they demonstrate significant declines.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Russell H. Schmidt, Chairperson

AN EVALUATION OF THE ELEMENTARY GIFTED EDUCATION PROGRAM
PILOTED IN 1979-80 IN SCHOOL DISTRICT #877

Jean Ann Larson Johnson

PROBLEM: It is the purpose of this study to report an evaluation of the Buffalo Schools' elementary gifted education program and the gifted student selection procedure for the purpose of presenting recommendations for its future implementation.

PROCEDURE: The three main issues of gifted student selection, acceptable gifted programs, and methods of communication were identified for evaluation. Surveys containing relevant questions were sent to parents, students, classroom teachers and resource teachers of the gifted.

FINDINGS: The opinions of those surveyed indicated:

1. The student selection process needs to be improved by including more judgmental and standardized measurements.
2. The resource class is an acceptable program for meeting the needs of the gifted elementary students in the Buffalo School District. Suggestions were given for its improvement.
3. The methods of communication among those involved in the gifted program need to be improved. Suggestions were given for its improvement.

RECOMMENDATIONS: The author recommends:

1. Use of the Multi-Dimensional Screening Device for the Identification of Gifted/Talented Children developed by Bella Kranz.
2. Continuation of the resource class program. A person with an expertise in gifted education should be hired to coordinate and teach the elementary program.
3. Improving the methods of communication by developing a system of individual staffings for each student in the gifted program.
4. Increasing the budget for the gifted education program. Such increased funds are necessary to meet the program needs of staffing and materials for identification, instruction, and communication. This will help ensure the resources necessary to develop a quality gifted education program.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
Russell H. Schmidt, Chairperson

DEVELOPING THE SELF-ESTEEM OF THE INFANT

Patricia E. Schlick

PROBLEM: The purpose of this study was to show the importance of developing the self-esteem of the infant and to show some definite ways in which a parent or caretaker can help to develop the self-esteem of the infant.

PROCEDURE: First a study of literature was conducted on self-esteem and the infant. A questionnaire was then sent to several sources who expanded on how to help build the self-esteem at different stages of infant development.

SUMMARY AND CONCLUSIONS: It became very evident through this study that it is extremely important to develop the self-esteem of infants. Several suggestions were shown on some ways in which a parent or caretaker can help to develop the self-esteem of the infant. It was also found that there is a definite need for further study and research on infants and self-esteem.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Gordon E. Mortrude, Chairperson

FULL-DAY, ALTERNATE-DAY KINDERGARTEN: A COMPARATIVE STUDY

Beverly A. Schmitt

PROBLEM: Prior to 1971, school districts in Minnesota were required to hold half-day, daily sessions of kindergarten to be eligible for a half unit of state aid. Legislation in that year allowed districts to receive funds for kindergarten programs that were "equivalent" to a half-day, daily session. At the onset of that legislation, some kindergarten students in rural areas were placed in programs that required them to attend school for the full day on an alternate-day schedule.

Research studies were done to assess the effect that a full-day, alternate-day program would have on the achievement in academic and social areas for the kindergarten child. In many studies, standardized tests were used at the end of the school year to determine if the FDAD scores were different from the scores attained by students in the half-day, daily program. The intent of the current study was to look at the children who are operating under a full-day, alternate-day schedule and assess not a yearly outcome, but the day-by-day behavior exhibited. The researcher wanted to find out if the FDAD child has to deal with adverse learning conditions of fatigue and fragmented instructional lessons which makes the child less attentive and thereby hampers the learning process.

PROCEDURE: Two measures were used to research that inquiry. One instrument was a questionnaire that was given to students operating in the full-day, alternate-day program. The second instrument was a five-day-lesson-plan and retention-lesson-plan which monitored the child's responses to daily expectations and learning in both models. The data were gathered from six classrooms in rural area schools of Central Minnesota.

FINDINGS: The interview with the FDAD students indicated that virtually all of the students liked school and the type of scheduling they were attending. Concerns about being tired and rest periods were evident in the responses.

The analysis of the lesson plan data determined that full-day students were less attentive and did not do as well in the retention of the specified concept. The analysis indicated a statistically significant difference in the attentiveness of the children in favor of the half-day students.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980

Owen Hagen, Chairperson

INFORMATION MEDIA

AN ANNOTATED BIBLIOGRAPHY OF READ ALOUD BOOKS FOR
TEACHERS OF STUDENTS IN GRADES FOUR, FIVE AND SIX

Shirley J. Christenson

PROBLEM: The study was necessary because of the lack of bibliographies of current read aloud books to be used by teachers and media generalists of fourth, fifth and sixth grade students. It was the problem of this study to develop annotated bibliographies from which fourth, fifth and sixth grade teachers would select books to read aloud to their students.

PROCEDURES: This study was conducted with participation from the twenty-six elementary media generalists in Anoka-Hennepin Independent School District No. 11 rather than developing it in isolation from those who would be involved with its use more directly. Books to be considered as suitable read aloud books for teachers of fourth, fifth and sixth grade students came from a variety of sources. First, the media generalists were asked to recommend and send books to be considered for inclusion in the bibliographic listings for each grade level.

The researcher then perused the review of the fiction, biography, and folktales section in the 1970-79 Children's Catalog, a Wilson Company publication. Those titles receiving acceptable reviews were included in a preliminary list and were assembled from the building level collections. Finally, the researcher visited several elementary buildings to select additional titles for consideration. The researcher read the books collected and rated them against a set of nine criterion to determine whether they would be included in the designated bibliography. The titles were listed in alphabetical order by author. A brief annotation, title classification, list price, and grade level indications were added as vital information to the classroom teacher and media generalist.

FINDINGS: The review of the literature disclosed that most teachers do not know children's books and how to use or evaluate them. The library, public or school, is often an option to the child instead of an integral part of school or after-school use. Reading programs in schools are usually skills oriented without due emphasis placed on the equally important dimensions of the development of reading as a lifelong enjoyment. Teachers can and must become more familiar with books for children. Media generalists can help underscore the

importance of books by actively involving themselves in classroom activities and offering books for teachers to read aloud to their students. For all practical purposes primary grade teachers do read aloud to their students every day; however, this practice is not fully exploited by teachers in the intermediate grades. Finally, research stated that reading aloud is one of the first steps in the process of helping children learn to read. A continuation of a frequent exposure to a variety of good literature will help students to develop a lifelong enjoyment of reading.

CONCLUSION: The study concluded with a selected annotated bibliography of read aloud books for fourth, fifth and sixth grade teachers.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
Lawrence B. Smelser, Chairperson

AN ANALYSIS OF MICROCOMPUTER TECHNOLOGY IN ELEMENTARY AND SECONDARY SCHOOLS IN THE STATE OF NORTH DAKOTA

Milton Kinzler

PROBLEM: It was the problem of this study to assess the present and future status of microcomputer technology in elementary and secondary schools in the state of North Dakota.

If microcomputer utilization in North Dakota schools was ever to become an increasingly important and more integral part of the teaching-learning process, it was necessary to assess the overall applications of microcomputers and computer technology in elementary and secondary education in North Dakota schools. Therefore, the purpose of this study was to provide data and information concerning the following: (1) the current application and usage of microcomputers and computer assisted learning, (2) the projected usage and applications of microcomputers and computer assisted learning, and (3) factors that could facilitate or curtail the development of microcomputer technology in elementary and secondary education in North Dakota.

PROCEDURE: A survey instrument was developed and distributed to the head administrator of each school district in the state of North Dakota. In addition, in the eight largest school districts, the instrument was distributed to the respective building level administrator for each school. Each parochial or private school building level administrator also received the survey. Upon return of the surveys, the responses were recorded, studied, and summarized.

SUMMARY AND CONCLUSIONS: The survey aspect of this study indicated a keen interest of North Dakota elementary and secondary schools in the potential educational application of microcomputer technology. Half of the respondents indicated using microcomputer technology currently and over 79 percent of the respondents anticipate use of microcomputer technology in the future.

In consideration of the enthusiasm with which microcomputer utilization was accepted by North Dakota educators, it would appear essential to devote attention to the following: finances, training teachers regarding use of microcomputers, and access to software or computer programs.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Anthony Schulzetenberg, Chairperson

PRODUCTION OF INSTRUCTIONAL MATERIALS ON VIDEOTAPE BY SELECTED SCHOOL DISTRICTS AND SECONDARY SCHOOLS IN MINNESOTA

Janice G. Sorell

PROBLEM: Many secondary schools in Minnesota have equipment which gives them the capability to produce television programs and retain them on videotape. Some schools expend a great deal of time and talent in the production of educational programs to be used as teaching aids. The main goal of such programs is the content of the program itself rather than providing a learning experience for students through television production. The production of such programs has been alluded to at professional meetings and suggestions have been made to share these programs. An obstacle to sharing is the lack of knowledge about who is producing programs and what kinds of programs are being produced.

The purpose of this study was to locate schools in Minnesota which were active in the production of educational programs on videotape either on the building or district level, to seek information about the programs, and to investigate the possibility of sharing.

PROCEDURE: A survey was developed and distributed to media professionals on the building and district levels in Minnesota's largest school districts. The survey asked respondents about their television production capabilities and whether or not they produced programs meeting the criteria of the study. Those who responded in the affirmative were asked to supply information about the programs, including criteria for topic selection, responsibilities for production, hiring of people from outside of the district, funding, format for distribution, design of supplemental materials, and access to and publicity for programs. Respondents were also asked to supply a list of titles of programs produced and to give suggestions for sharing programs with other districts.

SUMMARY AND CONCLUSIONS: Nearly half of the largest school districts were actively involved in producing instructional materials for television. Slightly less than half of these had given some consideration to sharing of materials. Those who did provided thoughtful and innovative suggestions.

In consideration of the costs in time and talent for producing instructional television programs, it would seem wise to expand the usage and avoid duplication of programs produced. Sharing locally produced programs is a feasible solution, even if it must begin on a small scale with approximately one-fourth of the largest school districts in Minnesota.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
Anthony Schulzetenberg, Chairperson

PHYSICAL EDUCATION AND RECREATION

A STUDY OF THREE CIRCULATORY-RESPIRATORY ENDURANCE TESTS ADMINISTERED TO FIFTH AND SIXTH GRADE CHILDREN

Richard H. Blakstvedt

The purposes of this investigation were to: 1) study the results of three

circulatory-respiratory endurance tests administered to fifth and sixth grade children, 2) compare the relationship between the tests, 3) study the effects of age, sex and body size, 4) compare present results with established norms, and 5) develop norms for fifth and sixth grade children in Osseo School District #279. Male and female students (N = 52, ages 10-12) were administered the 600 yard run-walk test, the 12 minute run-walk test and a modified Harvard Step Test. A significant correlation coefficient was found between the 600 yard run-walk and the 12 minute run-walk ($r = .78$). The twelve year old group was the only group to show a significant relationship between the step test and the 12 minute run-walk ($r = .42$). The male students achieved higher mean scores on all three circulatory-respiratory endurance tests. Body size was significantly related to the subjects' performance on the run-walk tests. The subjects within this investigation achieved significantly higher median percentile scores on the 600 yard run-walk and the 12 minute run-walk than are set forth by established norms. Median percentile scores were the 68th percentile and 71st percentile respectively on the established norms. All of the subjects fell within the good or average range on the index of cardiovascular index for the Harvard Step Test. The lack of homogeneous grouping and the limited number of subjects (52) made establishment of norms invalid and unreliable for use in district testing.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
John Kelly, Chairperson

PRE-SEASON AND POST-SEASON PHYSICAL FITNESS TESTING OF A FOOTBALL TEAM

James J. Lind

Twenty-four college football players, from the St. Cloud State University football squad, were tested in six different areas to determine their level of physical fitness. The six areas included body composition, hip flexibility, leg power, arm and chest power, anaerobic fitness and aerobic fitness. Body composition was determined by taking measurements of the triceps skinfold, waist, circumference, and height. These measurements were then substituted into a formula developed by Kelly and Wickkiser. Hip flexibility was determined by using a sit and reach test developed by Wells and Dillion and the trunk extension test as described by Johnson and Nelson. Leg power was assessed by using the vertical power jump developed by Gray, Start and Glencross. Arm and chest power was measured by using the medicine ball put test as described by Johnson and Nelson. Anaerobic fitness was determined by using the Springfield test as described by Meadors and Crews. Aerobic fitness was determined by using the twelve minute run developed by Balke and later popularized by Cooper. The seven tests were given at two different times: the first two days of fall football practice and the last week of the season.

The following hypotheses were investigated: (1) there will be no significant difference between the means of the pre- and post-season body composition data, (2) there will be no significant difference between the means of the pre- and post-season hip-flexion data, (3) there will be no significant difference between the means of the pre- and post-season trunk extension data, (4) there will be no significant difference between the means of the pre- and post-season vertical jump data, (5) there will be no significant difference between the

means of the pre- and post-season two-hand medicine ball put data, (6) there will be no significant difference between the means of the pre- and post-season anaerobic data, (7) there will be no significant difference between the means of the aerobic data. T ratios were used to test the mean differences for significance. There were significant differences at the .01 and .05 level of confidence in the two-hand medicine ball put test and the Springfield test. None of the other test score means were significantly different at the .05 level of confidence. It was concluded the experimental group maintained their level of fitness in five areas and significantly improved the fitness levels in two areas.

APPROVED BY RESEARCH COMMITTEE, MAY 1981
John M. Kelly, Chairperson

CONSTRUCTION OF A PHYSICAL FITNESS ACHIEVEMENT SCALE OF NORMS
FOR THE FITNESS TESTING PROGRAM FOR 9TH AND 10TH GRADE
STUDENTS AT APOLLO HIGH SCHOOL, ST. CLOUD, MINNESOTA

Donna M. Ludwig Mark

The purpose of this study was to construct a scale of norms for the fitness program at St. Cloud Apollo High School. These norms are to be obtained by measuring the three components of physical fitness: upper body strength and endurance, lower body strength, and cardiorespiratory endurance.

Students tested were ninth and tenth grade boys and girls enrolled in regular physical education classes. A total of 5161 cases were recorded; 2701 males and 2460 females. A battery of eleven fitness tests, pull-ups, push-ups, peg boards, bar dips, sit-ups, shuttle run, vertical jump, standing long jump, 50 yard dash, 1.5 mile run and 500 yard swim, were administered three times a year.

The Color System at Apollo uses four standards of achievement that become progressively more difficult as a student advances up the scale: red, represents a minimal fitness level that most individuals should be able to reach; blue, is the second standard and it requires a fitness level that is slightly above the average; in order to achieve the gold standard an individual would have to have excellent fitness in any particular area; and those who are able to reach purple are the specifically trained persons. The percentile ranks that resulted from this research correspond with the Apollo Color System in the following ways:

Red	=	the mean of the test
Blue	=	75%
Gold	=	85%
Purple	=	95%

The development of the achievement scale of norms will provide the Apollo Physical Education Program with true standards. The norms will enable students to rate their fitness level and identity with other students from Apollo. The construction of the scale of norms will help motivate individuals to reach a minimum level of achievement and work to attain even a higher level of achievement.

APPROVED BY RESEARCH COMMITTEE, MARCH 1982
Robert Waxlax, Chairperson

A COMPARISON OF THE LEVEL OF HEALTH KNOWLEDGE BETWEEN TWO
GROUPS OF FRESHMEN STUDENTS ATTENDING CATHEDRAL
HIGH SCHOOL, ST. CLOUD, MINNESOTA

Dennis L. Miller

PURPOSE: The purpose of this study was to determine the level of health knowledge of freshmen students attending Cathedral High School, St. Cloud, Minnesota, and the factors which might have played a role in the level of health knowledge.

PROCEDURES: The subjects in this study included 129 ninth grade students, 57 males, and 72 females. For comparative purposes the pre- and post-test format was used. The Kilander-Leach Health Knowledge Test was used to gather data on student's knowledge level. A personal data sheet was administered to the students to determine parental background and prior class enrollment. The test and personal data sheet were administered to ninth grade males and females attending Cathedral High School. Of the 129 subjects, 66 subjects (27 males, 39 females) were not enrolled in the school's health education class (control group) and 63 subjects (30 males, 33 females) comprised the experimental group, those students enrolled in the school's health education class. The pre-test was given September 15, 1980 and the post-test was given January 12, 1981, near the end of the first semester. The .05 level of significance was used for statistical analysis. Analysis of Variance, T-tests and Crosstabulations, Regression Analysis, and measurements of central tendency were all analyzed to concisely determine impact specific factors may have had.

FINDINGS: There was no significant difference between the sexes on either the pre-test or the post-test. Analysis of parental background indicated that, although no significant differences were found, parents with the most formalized education and occupations that demanded a high level of education or dealt in health related areas, had offspring that achieved the highest mean scores. Enrollment in the secondary classes anatomy, biology, drug education and physical science did show significance ($P = .033$) on the health knowledge test, irrespective of group. The experimental group scored significantly higher on the post-test ($P = .002$) than did the control group. All factors considered, as indicated statistically, health education may be the major factor relative to increased post mean score on the health knowledge test.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981
Theophanis Hortis, Chairperson

A COMPARATIVE STUDY BETWEEN SELF-CONCEPT OF SEVENTH GRADE
STUDENTS AND THEIR PHYSICAL FITNESS

Mark T. Nelsen

The purpose of this study was to determine if a relationship exists between self-concept scores, as measured by the Piers-Harris Children's Self-Concept Scale and physical fitness, as measured by the Alexandria Youth Fitness Test. The sample for this investigation consisted of 283 seventh grade students from Central Junior High, Alexandria, Minnesota.

The design of this study allowed two types of statistical analyses. First, the Pearson Correlation Coefficient was completed for each combination of variables (self-concept scores and physical fitness scores) over all three populations. Secondly, T-tests were employed to determine the significant difference between the means of the physical fitness scores of the AFT for the positive self-concept group (top twelve percent self-concept scores) and the means of the physical fitness scores for the AFT of the negative self-concept group (bottom twelve percent of the self-concept scores).

There were numerous hypotheses formed as a result of the design and analysis to be completed in this study. The results of the analysis using the Pearson Correlation Coefficient revealed some low, but significant, relationships between self-concept scores and physical fitness for the seventh grade students, boys and girls populations. In addition, the T-tests produced similar findings. Here there were several mean differences that were significant for each of the populations analyzed.

The findings of this investigation tend to support the relationship between self-concept scores and physical fitness scores. However, cause and effect conclusions were not possible due to the design of the study. Nevertheless, the findings of this investigation could have tremendous potential for individuals working with children, especially in the area of education where continuous opportunities exist to improve an individual's perception of himself or herself and thereby create a positive effect.

It was recommended that future studies encompass different age levels, various measures of self-concept and various measures of physical fitness. Also, these studies should involve a control and experimental group in the design. The experimental group could be involved in a year long physical improvement course. In addition, curriculum construction, development, and revision should take place with these findings and similar investigations kept in mind.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Robert Waxlax, Chairperson

A COMPARATIVE LIFESTYLE ASSESSMENT

Kay E. Pfluger

PROBLEM: The purpose of this study was to compare two heterogeneous groups whose occupations and educational levels differed in selected lifestyle behaviors such as smoking, sleeping, exercising, alcohol and food consumption. One sample included thirty male St. Cloud State University faculty members, and the second group consisted of thirty male City of St. Cloud firemen.

PROCEDURE: Each member of the two samples was given a personal interview which included answering an identical questionnaire and measuring the triceps, skinfold and the waist circumference all of which were administered by the interviewer.

The thirty faculty members were selected by using a table of random numbers and were sent an introductory letter explaining the project and requesting their participation. A follow-up telephone call confirmed an appointment. Each interview lasted approximately fifteen to twenty minutes.

The sample of firemen was informed of the study, and all available personnel were interviewed. Each interview also lasted fifteen to twenty minutes.

FINDINGS: An analysis of the data was computed by either chi-square ratios or t-ratios depending on the style of the question. The .05 confidence level was used to determine significant differences. Only three of the lifestyle factors compared were found to be significant which included the level of education, the difference in the amount of lifting done during the work day, and in the enjoyment of their occupations.

CONCLUSIONS: The amount of education an individual has seemed not to be a significant factor in the practice of a healthier lifestyle. A comparison of the findings of the two samples also matched closely to what is being practiced on a national scale. Finally, neither group exhibited behaviors that could be considered an unhealthy extreme.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
John Kelly, Chairperson

EFFECTS OF A SIX-WEEK PHYSICAL FITNESS PROGRAM ON HEART RATE RESPONSE OF ELEMENTARY SCHOOL CHILDREN

Rosemarie Silbaugh Stallman

PROBLEM: The purpose of this study was to determine the effects of a six-week physical fitness program on the resting and recovery heart rates of 10-, 11-, and 12-year-old girls and boys.

METHODOLOGY: Forty-six volunteers from the Gray Campus Laboratory School on the St. Cloud State University Campus in St. Cloud, Minnesota, were randomly divided into experimental and control groups. The experimental group completed a nine-minute physical fitness program five days per week for six weeks.

Pre- and post-exercise heart rate means were compared by total groups and for boys, girls, and the three age levels. Comparisons were made by use of the t-test statistical technique.

FINDINGS: Recovery heart rate differences (experimental group mean of -13.0 and -.34 control group mean) were significant at the .01 level of confidence. Results of the experimental and control group mean resting heart rate differences and the group mean recovery differences for girls revealed a significant difference at the .05 level of confidence. In the comparison of ten-year-olds, it was determined that the post-test resting heart rate and group mean resting heart rate differences were significant at the .05 level of confidence. The mean recovery difference between the experimental and control groups of eleven-year-old subjects was found to be significant at the .01 level of confidence. The significant findings also included a mean pretest resting heart rate difference between the two eleven-year-old groups.

CONCLUSIONS: Within the limitations of the study, the investigator concluded the following: (1) there are some indications that the six-week physical fitness program employed in the study demonstrates value for reducing the recovery heart rate of elementary school children, particularly girls, and (2) the six-week exercise program seemed to affect the heart rate response of the ten- and eleven-year-old children more than the twelve-year-olds.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Ray Collins, Chairperson

THE EFFECTS OF A FIVE-WEEK RELAXATION TRAINING PROGRAM
ON STATE-TRAIT ANXIETY LEVELS AND HEART RATE
RESPONSE OF COLLEGE STUDENTS/ATHLETES

Scott J. Stallman

PROBLEM: The purpose of this study was to determine the effects of a five-week relaxation training program on the state and trait anxiety levels and resting heart rates of college age student/athletes.

METHODOLOGY: Thirty-eight volunteers representing the womens' swimming team, mens' track team and elementary education majors at St. Cloud State University participated in a five-week, fifteen minute per day, meditative relaxation training program.

Pre- and post-training heart rates were read and recorded daily at each relaxation session. The State-Trait Anxiety Inventory was administered before the five-week training sessions and directly after the five-week period.

FINDINGS: Resting heart rate differences were significant at the .01 level of confidence for the groups according to sex and athletic status. Post-trait scores were found to be significant at the .05 level of confidence for the group according to sex.

CONCLUSIONS: Within the limitations of the study, the investigation concluded the following: (1) there are some indications that the five-week meditative relaxation program employed in the study demonstrated value for reducing trait anxiety in males and females, and (2) the meditative relaxation training has value for reducing resting pulse rate.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Robert G. Waxlax, Chairperson

PSYCHOLOGY

EMOTIONAL PERCEPTION WITH REFERENCE TO HEMISPHERIC PROCESSING, STRESS DISORDERS, AND THE COPING STRATEGY OF WELLNESS

Stephen J. Busarow

The effects of cerebral hemispheric processing on emotional perception were studied. Cerebral dominance, as manifested in hand dominance, was used as an indicator of major hemispheric activity. Subjects were presented with verbal stimulus cues and created the actual stimulus through their own internal imagery. Galvanic skin response and electrocardiogram activity were used to measure emotional arousal. Stimulus cues included both pleasant and unpleasant situational images, and high and low levels of meaningfulness for each of these situation-types. All subjects experienced all stimulus conditions. Significant differences were found between males and females in all conditions, and between left- and right-handers in opposing conditions.

Following this, the physiologic effects of stress were discussed and the influence of emotions on them was explored. It was shown how a physical, as opposed to psychological, mind-body connection exists and functions. The integral role of emotions in the stress process was examined in the "closed-loop" interactive system within which they operate.

Because the effects of stress can be physically, and hence psychologically, debilitating, a situation arises which requires intervention aimed at both the physical and psychological symptoms of the situation. With this in mind, the coping strategy called "wellness" was discussed. Similarities between wellness and self-actualization theory were examined, and the curative and preventive characteristics of wellness were also introduced. The theory of helplessness was compared with the characteristics precipitating negative stress effects. Finally, the need for a comprehensive treatment within the counseling setting to individual problems was argued for because of the inter-relationship between the mind and the body.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Albert Krueger, Chairperson

A MEASUREMENT OF STUDENT SATISFACTION WITH THE GUIDANCE SERVICES IN TWO MINNESOTA HIGH SCHOOLS

Diane M. Merritt

Guidance Service evaluations are occurring more frequently and a critical look is being given to these services to ascertain whether they are meeting the needs of the students. Several studies have been done, but no clearcut results have been obtained.

A questionnaire was developed and administered to two Twin Cities suburban high schools in an attempt to measure the students' satisfaction level. In addition to a checklist of services provided by the guidance department, questions pertaining to the experiences the students had with their counselors were asked. An open-ended question asking for suggestions pertaining to the guidance department was included. The data were collected, analyzed results discussed, and implications drawn.

In general, the students were satisfied with the guidance services. The more the students used the guidance department the greater was their satisfaction. Seniors tended to use the department more than lower classmen. Males tended to visit their counselor more than females. The levels of satisfaction within two guidance departments in one school system are basically the same. Few students stated that they sought counselor help with personal problems. The main concerns of the students were educational-vocational.

In this study, specific to two high schools, it was possible to view the guidance services from the students' point of view. If a questionnaire were to be administered in senior high schools periodically, it would be possible for the guidance staff to evaluate their services with student needs, and therefore satisfaction, in mind.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Mary Dwyer, Chairperson

PSYCHOLOGICAL ANDROGYNY AS AN INDICATOR OF WORK ADJUSTMENT

Shelly C. Wolff

It is well documented that personal and social adjustment affect work adjustment, but it is unclear specifically what aspects actually do. Sex role identity has been found to affect personal and social adjustment significantly enough to be related to mental illness. Research has indicated that the work personality, sex role identity and mental illness are all developmental processes which begin at birth. However, the interrelatedness of the three had yet to be explored.

The thrust of the study is to determine whether sex role identity is related to work adjustment in the male psychiatric population. The study was conducted at the VA Medical Center, St. Cloud, where 106 male patients were tested. Selection criteria included being employable, as determined by respective treatment staff, and having worked within the last five-year period. The subjects were administered the Bem Sex Role Inventory (BSRI), an assessment of sex role identity; the Minnesota Satisfaction Questionnaire (MSQ), an assessment of satisfaction with various aspects of subject's last job; and a work history. The BSRI is scored to derive a fourfold classification of sex role identity; masculine, feminine, androgynous, and undifferentiated. Androgynous and masculine individuals have been determined to be the better adjusted of the four categories. The MSQ and the work history were used as indicators of work adjustment. Subjects were separated into two groups; chemically dependent and other psychiatric illnesses.

The results include the following. There was no relationship found between the independent variable (sex role) and the dependent variable (work adjustment). Chemically dependent subjects were significantly more satisfied with their jobs on four of the twenty-one MSQ scales while approaching significance on four other MSQ scales. This group also worked longer than non-chemically dependent subjects. Marital status proved to be an indicator of length of employment. Persons who had ever been married worked much longer than never married subjects. A significantly greater number of chemically dependent subjects were ever married compared to non-chemically dependent subjects.

To summarize, the chemically dependent subjects were better adjusted as determined by the MSQ, work history, and BSRI scores. The non-chemically dependent psychiatric group consistently evidenced patterns of social and psychological maladjustment.

In order to make further assumptions as to the difference between sex role classifications, there should be instrumental control over the active psychiatric behaviors of the subjects. Careful consideration of diagnostic groups must be considered to eliminate bias resulting from extraneous variables. A different mode of measuring work adjustment is needed to determine the relationship between sex role orientation in the psychiatric population.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980

George Petrangelo, Chairperson

READING CONSULTANT

A COMPARATIVE STUDY OF READING ACHIEVEMENT IN TWO INDIVIDUALIZED PRESCRIPTIVE READING PROGRAMS

Rosalie Dehli

PROBLEM: This quasi-scientific study asked the question: Will the change of materials and sequencing of skills in an individualized prescriptive reading program produce significant gain in reading achievement scores? The two programs compared were IPI (control group) and NRS (experimental group). Both shared the same developer as well as philosophy and rationale.

PROCEDURE: This two year study included 106 first grade students and subsequently the same second grade students the following year. The Murphy Durell Reading Readiness Test was administered at the beginning of first grade. The Metropolitan Achievement Test Form JS was administered at the end of first grade and again at the end of second grade. An analysis of variance was computed to determine differences in magnitude of the mean scores. Comparisons were made using total group and quartile data.

FINDINGS: The statistical hypotheses involved both the general research hypothesis and the null hypothesis. There was insufficient evidence to accept the general research hypothesis. The null hypothesis was supported in all cases. Specifically, the analysis of the data collected from this study did not indicate a change in the gain of reading achievement scores between the two groups.

RECOMMENDATION: As a result of this study the author offers the following recommendations: 1) Studies in reading achievement gain involving the IPI reading program and the NRS reading program should be continued and extended. 2) The severe limitations placed on the experimental group in this study should be reduced in further studies. 3) Studies including self-concept and attitude in reading should also be given consideration for further studies involving IPI and NRS.

APPROVED BY RESEARCH COMMITTEE, MAY 1981
Roger Rouch, Chairperson

THE RELATIONSHIP BETWEEN THE ELEMENTARY SCHOOL READING PROGRAM AND THE READING ATTITUDES AND PRACTICES OF SEVENTH GRADERS

Ardis J. Falk

Since developing good reading attitudes and practices is an important part of an elementary school reading program, the writer has attempted to show the effect the elementary school reading program has had on the reading attitudes and practices of alumni.

The reading programs of an open elementary school learning environment and a traditional elementary school learning environment were researched and described. Comparative groups of alumni from each school were surveyed to determine present reading attitudes and practices. The survey contained twelve questions, three measured reading attitudes and the rest measured reading practices. Chi-square was used for seven of the questions to test for statistically significant differences between the two groups. The answers to the other questions were charted in an attempt to find similarities and differences.

After a research of related educational literature, an evaluation of the two reading programs and an analysis of the statistical information several conclusions were reached concerning the effect the elementary school reading programs had on reading attitudes and practices. The reading programs in both learning environments provided several components for developing good reading attitudes and practices recommended by leading educators in the field of reading. These included:

1. An environment was provided in which children were allowed to make mistakes without fear of punishment.
2. Basal readers were used without limiting the children's school reading.
3. Specific skills were taught only to the children who needed them.
4. Time was provided in school for personalized reading.
5. Children were free to use the resource center.

Alumni from both learning environments chose reading as a leisure activity and enjoyed reading. Their choices of books and authors did not reflect the school attended nor their sex. The only statistically significant difference was in the reading of juvenile magazines; more alumni from the open school read juvenile magazines.

The writer concluded that good reading attitudes and practices had been learned in both the open elementary school learning environment and the traditional elementary school learning environment researched for this study.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981
Roger Rouch, Chairperson

EFFECTIVENESS OF A SUMMER READING PROGRAM ON READING ACHIEVEMENT OF ELEMENTARY AGE STUDENTS

Karen A. Schutte

The purpose of this study was to investigate the effects of summer school on the reading achievement of elementary special education students. It was hypothesized that no significant score differences would occur within the Experimental Group, whose members participated in summer school, within the Control Group, whose members were not summer school participants, and between the two groups.

The mean raw score changes on the Word Recognition subtest of the Wide Range Achievement Test and the Word Recognition and Reading Comprehension subtests of the Peabody Individual Achievement Test were compared. The null hypotheses were accepted in all comparisons within the Experimental Group, within the Control Group, and between the two groups except in one instance.

The Control Group achieved score gains on the word recognition subtest of the Peabody Individual Achievement Test which were significant at the .05 level. Therefore, the null hypothesis for this specific comparison was rejected.

It was further recommended that more statistical research be conducted on existing and proposed summer school programs for elementary special education students and that a variety of summer school models be studied for appropriateness before implementation.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
Roger Rouch, Chairperson

A STUDY OF THE DIFFERENTIAL EFFECT OF BEGINNING TYPEWRITING INSTRUCTION ON READING ACHIEVEMENT SCORES OF SELECTED HIGH SCHOOL STUDENTS

Phyllis Perish Wolak

PROBLEM: The purpose of this study was to determine if tenth, eleventh, and twelfth grade students who were below the fiftieth percentile on a standardized reading test showed a greater gain in reading achievement by (1) taking a beginning typewriting course, alone, or (2) in combination with a remedial reading course, than students who took (3) only a remedial reading course, or (4) students who took neither a remedial reading nor a beginning typewriting course.

PROCEDURE: The fifty-eight students in the study were from two high schools. The students were divided into four groups: students who took a remedial reading course, students who took a beginning typewriting course, students who took both a remedial reading and a beginning typewriting course, and students who took neither a remedial reading nor a beginning typewriting course. The length of the course was one academic semester.

The students were pre-tested and post-tested using the Gates-MacGinitie Reading Test, Survey F. The test consisted of three sections which measured four areas of reading achievement: Speed and Accuracy, Vocabulary, and Comprehension.

The four groups of students were compared using an analysis of variance of the pre-test and post-test scores to determine if the groups were the same in reading achievement at the beginning and end of the study. The four groups were also compared using an analysis of variance on the gain scores (pre-test to post-test) to determine if any one group or groups made statistically significant gains in any of the four areas of the reading test. A t -test was used to determine which group or groups had made the gains.

A t -test was also used to assess any statistically significant differences between the pre-test and post-test scores on each of the four sections of the test within each of the four groups.

FINDINGS: The analysis of variance indicated that the only significant gains were made by the remedial reading group in Accuracy when compared to the gains made by the group that had both remedial reading and beginning typewriting and the group that had neither remedial reading nor beginning typewriting.

The t -test indicated that the remedial reading group showed significant gains on all four areas of the test. The beginning typewriting group and the group that had both remedial reading and beginning typewriting showed a significant gain on the Speed section of the test. No other significant gains were found.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
Lynette Char, Chairperson

SPECIAL EDUCATION

A STUDY ON THE RELATIONSHIPS BETWEEN THE LEARNING STYLES INVENTORY AND THE STUDENT POSITIVE PROFILE SCALE

Margaret H. Bates

PROBLEM: The purpose of this study was to determine if there was any relationship between personality themes and a total personality profile score on the Student Positive Profile Scale and student learning preferences on the Learning Style Inventory among a group of eighth grade science students who had been identified as having unique educational needs.

PROCEDURE: Thirty-six eighth grade science students who had been identified as having problems in school were administered the Learning Style Inventory and the Student Positive Profile Scale. A Pearson Product Coefficient was used to determine if a relationship existed between items on the tests at a .05 or greater level of significance.

RESULTS: Of 572 possible Pearson Product Coefficients only 59 significant relationships were identified at the .05 or greater level of significance. While the data suggests that there are some significant relationships between the Learning Styles Inventory and the Student Positive Profile Scale, the number is small. One interesting relationship did stand out, however. Among the sample group, students saw themselves as being persistent unless they were futuristically oriented. Students who were concerned about the future, did not feel they were persistent.

APPROVED BY RESEARCH COMMITTEE, MARCH 1982
James Lewis, Chairperson

A STUDY OF THE EVALUATION AND ASSESSMENT OF THE HEARING IMPAIRED

Margaret C. Bellamy

The purpose of this study consisted of four parts: 1) a comparison of the performance of the hearing impaired subjects on the Woodcock-Johnson

Psycho-Educational Test of Cognitive Ability and the Hiskey-Nebraska Test of Learning Aptitude, 2) comparison of the performance of the hearing impaired subjects on the Woodcock-Johnson Test of Achievement in reading and math to the standardized sample, 3) a comparison survey of the hearing impaired subject's reading and math achievement in relationship to the normal population and in consideration of the subject's handicap, and 4) the evaluation of the interpreter for the hearing impaired in the assessment process.

Each of the hearing impaired subjects were administered the Woodcock-Johnson Psycho-Educational Test of Cognitive Ability and Test of Achievement in reading and math. Previous to this study, the Hiskey-Nebraska Test of Learning Aptitude was administered. The correlation data were analyzed using the Pearson Product Moment Correlation Test of significance. The statistical analysis demonstrates that no significant relationship exists between the Woodcock-Johnson Test of Cognitive Ability and the Hiskey-Nebraska Test of Learning Aptitude. The hearing impaired subjects performed at a significantly lower level on the Woodcock-Johnson Test of Achievement in reading and math when compared to the standardized population.

The mainstream teachers completed a survey that compared the hearing impaired subjects in reading and math to the normal population and in consideration of the subject's handicap. The subjects were rated lower when compared to the normal population, but were rated slightly higher when considering the handicap.

The study of the value of the interpreter during the assessment process and the overall test conditions was done through the use of an evaluation form completed by the psychologist and the interpreter. Differing opinions existed when the psychologist and interpreter assessed the overall test conditions. The ratings on the value of the interpreter in the assessment process showed no differing opinions.

Further studies on the assessment of hearing impaired subjects in the areas of cognitive ability and achievement using a larger sample could be done to obtain more thorough data. The use of an interpreter as a part of the assessment process and/or evaluation when the examiner is responsible for the interpreting component warrant further study.

APPROVED BY RESEARCH COMMITTEE, MARCH 1982
James Lewis, Chairperson

THE RELIABILITY OF PERFORMANCE RATINGS MADE ON TMR STUDENTS BY PARENTS AND TEACHERS

Susan J. Bergstrom

PROBLEM: The purpose of this study was to determine if differences existed between mothers, fathers, and teachers, on performance ratings of trainable mentally retarded (TMR) students on selected functional skills. Performance ratings of urban and rural observers were also examined for differences.

PROCEDURE: A questionnaire was mailed to the parents of fifty-four TMR students in an urban and a rural school setting. TMR students living at home were identified and a sample was randomly selected. Parents were instructed to individually rate their children on twelve functional skills. A corresponding rating was made by the classroom teacher on the same twelve skills. Differences in the proportion of each group rating the students was analyzed using

the chi-square statistical procedure.

RESULTS: Significant differences between raters were found on seven of twelve items--washing hands, brushing teeth, walking, use of fork, drink from a glass, tie shoes, and remake bed. Significant differences were found between urban and rural raters on eleven out of twelve items. Only the item (toilet training) showed no significant differences.

CONCLUSIONS: It was concluded that individual ratings of mothers, fathers, and teachers varied significantly depending on whether the skill was functional or academic, the time spent by the rater working with the student on the skill, and the importance placed on the skill by the rater. Also contributing to the differences in rating were the simplicity of the skill, whether the raters were urban or rural, and whether the skill is common to both home and school environment.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981
Stanley C. Knox, Chairperson

THE MASTERY, RETENTION, AND GENERALIZATION OF DOLCH SIGHT WORDS IN A PEER TUTOR INSTRUCTIONAL SITUATION

Peter D. Biaggio

A three condition counterbalanced design was employed to determine if in a data based peer tutoring situation there would be greater retention, mastery, and generalization of Dolch sight words for the peer while tutoring, than while being student or classroom teacher instructed. A small midwestern elementary school served as the setting for the three subjects investigated. The results demonstrated that the peer tutoring condition yielded greatest mastery, retention, and generalization of sight words. The tutee condition was second in effectiveness, while the classroom teacher instructed condition was the least effective. It was concluded that a data based peer tutoring approach allowed for a more expedient way of organization of teacher time in the special education classroom.

APPROVED BY RESEARCH COMMITTEE, MAY 1981
Joan K. Bigler, Chairperson

THE EFFECTS OF DIFFERENTIAL REINFORCEMENT OF INCOMPATIBLE BEHAVIORS ON THE STEREOTYPIC BEHAVIOR OF A SEVERELY HANDICAPPED INDIVIDUAL

Sally A. Meshke Boos

PROBLEM: Many severely and profoundly handicapped individuals engage in self-stimulatory or stereotypic behaviors. These behaviors, being repetitive and non-functional, can hamper learning and the development of social interaction skills. In the past, attempts have been made to reduce or eliminate stereotypic

behaviors through the use of punishment or overcorrection. For some school personnel, these procedures may be too restrictive or adversative to implement in the classroom. The purpose of this study was to determine if a less restrictive procedure, the differential reinforcement of incompatible behaviors, could be effective in reducing self-stimulation.

PROCEDURE: A multiple baseline across tasks, within a single subject design, was used to evaluate the procedure. The procedure used was the differential reinforcement of incompatible behaviors. A behavior incompatible with self-stimulation was chosen for each of three pre-academic areas. During the baseline phase, the subject was reinforced on the average of every 60 seconds, contingent on a correct response. During the non-contingent or free reinforcement phase, the subject received reinforcement on the average of every 60 seconds regardless of the correctness of his responses. During the treatment phase, reinforcement was delivered for each and every correct response.

RESULTS: In all three task areas self-stimulation was reduced but in only one area was the reduction drastic. At the same time, the incompatible behaviors, all of which were more desirable, increased at corresponding rates.

CONCLUSIONS: This study demonstrates a reciprocal relationship between the acquisition of new skills and self-stimulation. It further indicates that the differential reinforcement of incompatible behaviors can be an effective means of reducing self-stimulation. This is important to teachers who for legal and ethical reasons are unable to utilize the more restrictive procedures of punishment and overcorrection.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981

Joan Bigler, Chairperson

THE RELATIONSHIP OF ACADEMIC ACHIEVEMENT AND CRIMINAL ACTIVITY

Mamie E. Carlson

The purpose of this study was to examine the academic skills of a group of sentenced criminals and the types of crimes they had committed. The investigation sought to determine if low basic academic skills, specifically reading skills, influenced or affected the type of crime committed.

PROCEDURE: Young men between the ages of 18-20 years, currently serving their sentenced time at the Minnesota Correctional Facility--St. Cloud, who were enrolled in the Title 1 program during a one-year period were studied. Data on academic skills and the crime for which they had been sentenced were gathered from each inmate's individual base file. This was done in order to examine the academic skills and types of crimes these young men had committed to determine whether a relationship could be detected.

FINDINGS: Low academic achievement was evidenced among the 86 cases used in the study. However, it was found that no relationship could be substantiated between academic achievement and criminal behavior.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980

William Lovelace, Chairperson

A STUDY OF AN INSERVICE PROGRAM'S IMPACT ON TEACHER PRACTICES IN DEALING WITH STUDENT BEHAVIOR PROBLEMS

Janet Salk Donohue

This study focused on inservice teacher education effectiveness by comparing the problem solving scores obtained by practicing teachers before and after their participation in an inservice course entitled "Learning and Behavior I."

The instrument used for this study was the Student Behavior Intervention Simulations, which was developed by the inservice course instructor. The subjects responded to fourteen student behavior simulations by choosing from a list of behavior intervention alternatives or creating an alternative of their own. Responses were then classified as problem solving or non-problem solving in nature.

The subjects for the study were twenty teachers from a central Minnesota middle school. Three treatment groups consisting of twelve subjects each also responded to the instrument for comparison purposes. The three groups included a graduate group of practicing teachers, an upper division undergraduate (UDU), and lower division undergraduate (LDU) group.

A significant difference was found to exist between the inservice subjects' pre and post problem solving scores. No significant difference was found to exist between the inservice subjects' pre and the graduate, UDU, or LDU problem solving scores. A significant difference was found to exist between the inservice subjects' post problem solving scores when compared to the graduate, UDU, or LDU scores. No significant difference was found to exist when problem solving scores of the graduate, UDU, and LDU were compared. The level of confidence for all comparisons was .05.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Floyd Ayers, Chairperson

PERSONAL STYLES AS RELATED TO SUPERVISION OF SPECIAL EDUCATION

Janice A. Fandel

PROBLEM: This study was designed to determine personal behavior styles of teachers of special learning disabled students at both the elementary and secondary level. This study was done to assist supervisors in providing information useful in determining their roles in leadership for the persons they directly supervise,

SAMPLE: The sample consisted of teachers of special learning disabled students in secondary and elementary school in special education cooperatives in rural Central Minnesota. There were 100 surveys sent to teachers with 65 surveys returned.

METHOD: The instrument used was the Personal Profile System. The teachers were asked to fill out a forced choice questionnaire which contained 24 boxes with four words in each box. In each box the teachers were asked to check the word which best describes them, and the word that least describes them. With

this information the instrument then categorizes this information into four dimensions which is translated into a profile. This profile provides information on the personal styles of each respondent. The scales are: Dominance (D), Steadiness (S), Influencing of Others (I), and Compliance (C).

FINDINGS: A comparison was made across the total SLD teacher population to see if there was a significant difference between the high scores on the profile. There was a significant difference at the .05 level with the highest scores on the S scale.

A second comparison was made to see if there was a significant difference between the way elementary SLD teachers rated themselves and the way secondary SLD teachers rated themselves. There was no significant difference.

Further investigation was designed to determine if there was a significant difference within the elementary SLD teacher ratings and the secondary SLD teacher ratings on the personal profile. There was a significant difference at the .05 level between the high and low scores on the profile at the elementary level with again the highest scale being the S scale. There was no significant difference at the secondary level.

DISCUSSION: On both the elementary and secondary level most of the high scores on the profile were on the S (steadiness) scale. With this information the supervisor can look at the description of persons in this category and make some generalizations relating to the SLD teachers they supervise.

At the secondary level there was a trend to have high scores also on the I (influencing of others) scale. The author felt with this information that a supervisor would enhance a SLD program by placing a high S person with a high I person in a special education department within a system. These types of persons' descriptions tend to compliment each other, therefore enhancing the harmony and productivity of the SLD program.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981
Stanley Knox, Chairperson

TEACHER ATTITUDES TOWARD THE HANDICAPPED

Amy L. Gillett

The purpose of this study was to identify relationships which may exist between the amount of special education training regular classroom teachers have received and their attitudes toward the handicapped. This study was also intended to identify which relationships may exist between the amount of contact regular classroom teachers have had with handicapped persons and their attitudes toward the handicapped.

Forty-nine regular teaching faculty at both the elementary and secondary levels employed in the regular education program in the Waconia, Minnesota, Public Schools were the subjects in this study.

A questionnaire was designed by the researcher, drawing from the contributions of related research and from professionals in the field of special education. The questionnaire included thirty-one questions designed to assess the attitudes of teachers toward persons with various handicapping conditions. Responses to each of the questions were subjected to a Chi-square test by analyzing the responses in relation to attitudes expressed on six additional questions concerning (1) teaching level, (2) amount of special education

training, and (3) the amount and extent of contact with the handicapped.

So that the questions to be answered could be statistically analyzed, the researcher proposed hypotheses in the null form. Of a possible 186 comparisons, only 16 were found to be statistically significant at the .05 level of confidence. All of the five null hypotheses were accepted.

Since sixteen comparisons were found to be significant at the .05 level, this may indicate that some relationship exists between teacher attitudes and amount of contact with the handicapped, amount of special education training received, or teaching level of the respondents.

Of the sixteen comparisons found to be significant, all of the relationships were found to be positive in teachers' attitudes toward various handicapping conditions.

The researcher recommended the study be repeated with a larger group of educators as well as other professionals outside of education and with persons with less extensive education.

APPROVED BY RESEARCH COMMITTEE, MARCH 1982

Floyd Ayers, Chairperson

AN INSERVICE NEEDS ASSESSMENT OF REGULAR CLASSROOM EDUCATORS AND THEIR ATTITUDES TOWARD HANDICAPPED STUDENTS

Julie L. Haak

School districts are being mandated by law to provide appropriate education for handicapped individuals. As a result of Public Law 94-142, which provides for placement of handicapped students in a setting as normal as possible, the attitudes and knowledge of the regular classroom teacher may unknowingly contribute to the success or non-success of a handicapped student.

After legislation, teachers from the Melrose and Sauk Centre school districts, located in central Minnesota, voiced concerns over placement of handicapped students in their classrooms. The intent of this study was to ascertain the attitudes and knowledge of regular classroom teachers within the Melrose and Sauk Centre school districts. The results will be used to provide for scope and direction of an appropriate inservice training program for school personnel.

In the review of the literature, the research available in regard to teacher attitudes toward the handicapped is limited and contradictory. It cites the positive and negative aspects of labeling handicapped students, ranging from providing program funding to fostering poor self-concepts. The literature investigates the source of attitudes and how they are formed. To better understand teacher attitudes the literature also reports on the level of understanding of a teacher in relation to a handicapped student.

A 30 item special education questionnaire, utilizing a Likert format, was developed and distributed to 119 elementary and junior high teachers in the Melrose and Sauk Centre school districts. The instrument is a modification of Runberg's (1972) 50 item questionnaire.

The survey was distributed and collected by the Mid America Dairyland Director. Chi-square calculations were performed to determine the significance of any differences in the proportion of teachers responding for both school districts and the level of teachers. The return response of the questionnaire was 61%.

Analysis of the data indicated no major differences between the school districts and elementary and secondary teachers. Based upon results of this study, it is recommended that an in-service program be developed and implemented for all regular and secondary teachers. The program should provide training and education in the following areas in regard to handicapped students: Programming, Mainstreaming, and Characteristics.

APPROVED BY RESEARCH COMMITTEE, MAY 1982

Stanley Knox, Chairperson

THE EFFECT OF DESCRIPTIVE VERBAL CODING IN EDUCABLE MENTALLY RETARDED CHILDREN'S OBSERVATIONAL LEARNING

Steven J. Hahn

PROBLEM: The purpose of this study was to investigate the effect of descriptive verbalization during observation of a model on retarded children's retention of what was observed. A second purpose was to determine if retarded children can spontaneously use descriptive verbalization following a series of training tasks in which this activity is required.

PROCEDURE: This study was conducted with 20 educable mentally retarded students ages 16 to 19 from three Minneapolis suburban high schools. Subjects were randomly assigned to four treatment conditions: Model only; Model plus covert verbalization; Model plus overt and covert verbalization; and Model plus overt verbalization. Part I consisted of 2 practice scenes, 5 scoreable scenes and a copying test. Part II included 5 scoreable scenes and a copying test. Subjects were instructed on how to attend and observe modeling scenes following which they were scored on attending and copying using a non normed rating instrument.

FINDINGS: The Jonckheere distribution free test for predicted order and differences was employed to do an analysis on total treatment conditions. At a .01 level of confidence the Model plus overt verbalization condition did not produce significantly more observational learning than other treatment conditions. Nor did the Model plus overt and covert verbalization condition produce significantly more observational learning than the Model only and the Model plus covert verbalization conditions.

SUMMARY AND CONCLUSIONS: The results indicate that the effect of descriptive verbalization during observation of a model on retarded children's retention of what was observed is minimal. In addition, the retarded children did not spontaneously use descriptive verbalization following a series of training tasks. Further studies using more tasks of greater complexity, are needed to determine the effect of descriptive verbalization during observation of a model on retarded children's retention of what was observed.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980

Floyd W. Ayers, Chairperson

PLACEMENT DECISION MAKING IN MINNESOTA AS A FUNCTION OF CHILD
STUDY SYSTEMS IN LOCAL EDUCATION AGENCIES

Paul Mark Harper

PROBLEM: Are child study teams (CST) in local education agencies (LEA) in Minnesota making placement decisions based on what current literature and PL 94-142 suggest are "best practices"?

PROCEDURE: The research population included fifty-eight lead teachers, coordinators and supervisors of special education programs selected randomly from a list compiled by the Special Education Section of the Minnesota State Department of Education. Data were obtained through the questionnaire technique with items relating to the following:

1. The kind of assessment information on which placement decisions are based,
2. The processes used in child study team meetings to reach placement decisions,
3. The limitations placed on the child study system regarding possible placement choices.

The responses were coded and tabulated by code, then processed for computer programming.

FINDINGS: The attendance of appropriate professionals and parents at placement meetings forms the basis for potentially valid placement decisions. However, misuse of assessment instruments and information, dominance of placement meetings by individuals, and lack of a system-wide commitment to meeting the needs of handicapped students are areas which appear to be detracting from the potential of placement decision making.

SUMMARY AND CONCLUSIONS: There is evidence from the data gathered that proper use of assessment instruments and information is lacking, that team members are not approaching the tasks as equals and that placement teams are being limited in the kinds of decisions they can make in formulating educational plans because of a lack of commitment by all staff in an LEA to the concept of least restrictive alternative. A need exists to in-service (train) professionals in proper use of assessment instruments and the resulting information, effective team processes leading to valid decisions and development of instructional alternatives through commitment on the part of the primary administrative personnel and staff to meeting the needs of handicapped learners in all settings.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Stanley C. Knox, Chairperson

SPONTANEOUS MANUAL COMMUNICATION FOR NONVERBAL
SEVERELY RETARDED CHILDREN

Caren A. Holm

A review of the literature pertaining to use of manual communication by severely retarded individuals revealed that little consideration has been given

to spontaneous use of sign in everyday situations. Rather, vocabulary acquisition has primarily been reported in terms of numbers of signs that students have learned to associate with trainer-presented signs/objects. Spontaneous use of signs acquired was not addressed in most cases and when mentioned the study provided no data measuring spontaneous sign usage.

To evaluate the effectiveness of manual communication for use with some severely retarded individuals, a system to observe and record spontaneous sign for communication was needed. Toward this end, the present study adapted procedures for spontaneous communication sampling from the methods reported in normal language acquisition research and applied them to four severely retarded subjects.

The educational program which subjects participated in was designed to provide them with frequent opportunities to acquire and use manual communication in everyday situations. Focusing on spontaneous sign use, staff and parents receive ongoing inservice by the investigator to acquire sign skills and to learn to introduce and use sign with their children. Vocabulary was selected based on students' informal communication and high preference objects and activities. New signs were introduced in situations where need for their use normally occurred.

Written transcription procedures were used for recording samples which were obtained three times a year for a period of three years. All signing communications by subjects were recorded as they interacted with significant people in their environment. Notes about the context within which communications occurred, including adult and peer communications were recorded in detail. Student utterances were categorized by existence of communicative intent (communicative versus noncommunicative) and nature of communication (child initiations and responses). The total group of data collected was analyzed in terms of numbers and percentages of distribution.

Findings for the three year period showed a consistent increase, reflected in both numbers and percentages, in communicative utterances while noncommunicative utterances decreased. Students generally showed an increase in the total number of child-initiations and child-responses from year to year, although the percentage of distribution between child-initiations and child-responses remained fairly stable.

Results supported use of this data-based recording system as a tool for monitoring sign as a system of functional communication for the subjects studied. The recording system also provided an objective way of evaluating the instructional program implemented with these students.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Stanley C. Knox, Chairperson

THE EFFECT OF TEACHER CHARACTERISTICS AND ATTITUDES ON THE
FREQUENCY OF REFERRALS TO PROGRAMS FOR THE
"MILDLY HANDICAPPED"

Peggy D. Hoxtell

PROBLEM: The purpose of this study was to compare the characteristics of teachers with high frequency rate of student referrals for services from programs for the "mildly handicapped" to the characteristics of teachers with low frequency rate of student referrals for services from programs for the "mildly handicapped."

PROCEDURE: Two instruments were used in this study. One was a questionnaire and the other an attitude scale which had thirty statements on teacher's attitudes dealing with the learning disabled child. The two instruments were completed and returned by 85 of 250 regular classroom teachers in the Benton-Stearns Special Education Cooperative. The results were analyzed for significance at the .05 level by use of the chi-square technique.

RESULTS: Of the characteristics tested, only the variable, grade level being taught, showed a significant difference between teachers with low and high rate of referral of students to programs for "mildly handicapped." The characteristics that showed no significant difference were (1) years of experience, (2) attitudes toward the exceptional child, (3) sex of the teacher, (4) age of the teacher, (5) number of courses taken in special education, (6) class size, (7) training beyond a Bachelor of Science degree, and (8) the courses required at the undergraduate and graduate level.

CONCLUSION: The only teacher characteristic that showed any significance was grade level. The first and third grades are where the differences were detected. Problems encountered in the introduction of new skills may lead to the referrals. The other characteristics and attitudes toward the exceptional child did not prove to be significantly related to the frequency of teacher referrals for services from programs for "mildly handicapped."

In order for a more conclusive decision to be reached a study should be done on data comparing the total number of referrals to those of that total number actually picked up for services. The relatively small percentage of return of the questionnaire by elementary teachers (34 percent) was probably a biased sample.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
James P. Lewis, Chairperson

AN INVESTIGATION INTO THE LEVEL OF PARTICIPATION OF HANDICAPPED STUDENTS IN EXTRACURRICULAR ACTIVITIES AND LEISURE PURSUITS

Anthony S. Jones

The purpose of this study was to investigate the degree to which students enrolled in special education services were active in their participation in extracurricular activities and leisure pursuits. The study was conducted in a rural Minnesota school district.

Public Law 94-142, Education for All Children with Handicaps Act, 1973, mandated that schools make an effort to include the handicapped student in these activities. The rationale behind the legislation was that the special education student should be integrated to the maximum degree possible in the school milieu, including extracurricular activities.

The study compared the participation of 36 special education students (16 EMH, and 20 LD), with a matched randomly selected group of their peers from the 'regular' stream of the same educational setting. The information for this investigation was obtained by response to a questionnaire. The questionnaire asked questions regarding the degree of participation in extracurricular activities and leisure pursuits of those persons subject to this enquiry.

The statistical data obtained indicated that students enrolled in special education programs are engaged in significantly less activities than their peers. In fact, special education students' involvement in extra-curricular activities, especially those of an athletic nature is virtually non-existent. Similarly, the data relating to the level of participation in leisure pursuits indicates a statistical difference, in that the control group is the most active in their participation. However, in this instance both the control group and the special education group pursue a wide variety of leisure pursuits, the difference here being one of degree of involvement, rather than the 'all or none' situation regarding their levels of participation in extra-curricular activities.

The analysis of the results identified the elitist nature of extra-curricular activity participation. The standards set in competitive athletic programs precludes the handicapped students involvement.

The implications of this study are that the particular school district in which this study was conducted appears not to be catering for the recreational needs of the handicapped student. This situation may be paralleled in similar school districts. The study makes recommendations as to how these recreational needs could be met.

The paper reviews a project instituted by the Duluth Public Schools, entitled Recreational Activities for students with Handicaps (R.A.S.H.), and suggests that it could be modified for other school districts with similar results.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Frederick Reese, Chairperson

THE GENERALIZATION OF ALTERNATIVE LANGUAGE SKILLS ACROSS SETTINGS WITH SEVERELY AND PROFOUNDLY HANDICAPPED ADULTS

Judy Lindroth Kallestad

Language problems are common in severely and profoundly handicapped individuals. Lack of communication skills create frustration and dependency for handicapped persons who are unable to communicate their needs to others. Traditional language training techniques are not always useful when applied to the mentally handicapped. Generalization of skills has been a major problem in most language programs as well.

A multi-modality training strategy, which combined two visual systems--rebuses and the American Sign Language, was used to increase expressive responses with four severely and profoundly mentally handicapped adults. The subjects were nonverbal and attended a developmental achievement center program. Following pre test assessments to determine receptive and expressive language abilities, a sequenced treatment program was initiated. Treatment was introduced under time-lagged conditions to each subject in turn. The study utilized a single case design with a multiple baseline across settings to determine if the treatment was generalizing across four class areas.

The post test results showed that some gains were made in expressive language skills. A statistical comparison of the performance of each subject on the first day of treatment with the performance on the same day of those subjects not yet exposed to treatment revealed no treatment effect. The number of staff stimulated responses produced by the subjects was highest in the

setting in which the training took place, while the spontaneous responses produced were about equally distributed among the four settings.

Modifications in the procedure, personnel, setting and time period are suggested for further investigation.

APPROVED BY RESEARCH COMMITTEE, MARCH 1982
William Lovelace, Chairperson

SECONDARY STUDENTS' READING INTERESTS IN RELATION TO THEIR READING ABILITIES

Joan K. Klapperich

A study of secondary students who attend a rural high school was conducted to determine the relationship between the students' reading abilities and their reading interests. A total of 250 10th, 11th, and 12th grade students were administered the Gates-Macginitie Reading Test and, based on their scores, they were divided into two quartiles. The upper quartile was composed of 62 students and the lower quartile had 65 students in it. These students were then participants in an interest survey of 37 items on which they indicated five interest items they like to read about and five interest items they do not like to read about. A week-long study of the high school library which compared the quantity of reading material checked out by both quartiles was also conducted.

There was a 70% correlation between the top ten positive responses indicated by the lower and upper quartiles. Both groups indicated that they like to read about the following topics: humor, love and romance, teenage problems and conflicts, animals, cars and motorcycles, and hunting, trapping, and fishing. There was a 50% correlation between the top ten negative choices of both groups. Both groups indicated that they do not like to read about politics, mathematics, religions, poetry, and historical fiction. The library analysis found that in one week period 55 students from the top quartile checked out a total of 40 books, while 27 students from the lower quartile checked out a total of 22 books.

The research concludes that although there is a minimal difference in the amount of time good and poor readers spend reading, the reading interests of both types of readers do not significantly differ according to the students' reading abilities.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Stanley Knox, Chairperson

DUE PROCESS PROCEDURES IN SPECIAL EDUCATION AS THEY RELATE TO A STATE'S QUANTITY OF HEARINGS

Robert E. Koll

PROBLEM: The intent of this study was: to identify the states utilizing informal processes for the resolution of problems, in special education

matters, preceding the hearing process; to determine an estimate of the number of states that have recently added informal processes to their due process procedures; and to investigate the relationship of the due process procedures described by the states, to the quantity of formal due process hearings they experienced.

PROCEDURE: A questionnaire was developed, coded and mailed with a self-addressed, stamped envelope to the State Director of Special Education in every state. The questions asked of each director were the following: (1) Does your state utilize an informal process for the resolution of differences between the home and the school preceding the formal due process hearing? If yes, briefly describe. If yes, how long has this system been operative? (2) How many formal due process hearings have occurred in your state in 1977-78 and 1978-79? Information from the return of these questionnaires was tabulated and interpreted.

FINDINGS: Sixty-seven percent of the directors returned their questionnaires. Sixty-five percent of the returns were from directors indicating that their states utilized an informal procedure. The number of years these states have implemented informal procedures ranged from one to seven years and averaged 3.2 years. States have experienced a decrease in the number of hearings they may have experienced by instituting informal procedures. States with high percentages of urban populations and states with high populations experienced more hearings than states low in these characteristics.

CONCLUSIONS: Preventive measures should be taken to reduce the potential for adversarial experiences. More states may design informal systems to avoid complaints that could escalate to the hearing level. Decision makers in special education should be trained to deal with each other equally, honestly and openly. Communication systems between the home and the school should be developed. Parents should be included in decisions concerning their children at the earliest levels of decision-making.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
Stanley C. Knox, Chairperson

A COMPARISON OF PERSONALITY TRAITS OF ADOLESCENTS IN A HOSPITAL SETTING

Margaret Kruschke

This study examined the clinical population of adolescents on the Mental Health Unit and Alcohol Chemical Addiction Unit at the St. Cloud Hospital.

The purpose of this study was to use two different assessment instruments, the Minnesota Multiphasic Personality Inventory (MMPI) and the Student Positive Profile Scale (SPPS) to determine if there were any differences in personality traits between the group of adolescents on the Mental Health Unit and the group of adolescents on the Alcohol Chemical Addiction Unit at the St. Cloud Hospital.

The Minnesota Multiphasic Personality Inventory and the Student Positive Profile Scale were both administered to thirty-one adolescents during their first week of treatment at the St. Cloud Hospital. The data were analyzed by using a one-way analysis of variance to determine factors that differentiate the two populations.

The study found that there existed a significant difference at the .05 level in the comparison of the adolescents on the Mental Health Unit and the adolescents on the Alcohol Chemical Addiction Unit on the Minnesota Multiphasic Personality Inventory on the scales of Lie, Depression, Paranoia, Psychos-thenia, Schizophrenia and the Social Scale. There were no significant differences exhibited on the other scales.

There existed a significant difference at the .05 level in the comparison of the adolescents on the Mental Health Unit and the adolescents on the Alcohol Chemical Addiction Unit on the Student Positive Profile Scale on the themes of Positivity and Futuristic. There were no significant differences on the other themes.

The only significant difference at the .05 level in the comparison of the male and female adolescents on the Mental Health Unit and the male and female adolescents on the Alcohol Chemical Addiction Unit on the Minnesota Multiphasic Personality Inventory was on the Masculinity-Femininity scale. There were no significant differences on the other scales.

There were significant differences at the .05 level in the comparison of male and female adolescents on the Mental Health Unit and male and female adolescents on the Alcohol Chemical Addiction Unit on the Student Positive Profile Scale on the themes of Ethics, Peer Relationships and Kinesthetic. There were no significant differences on the other themes.

The author found according to the results of the MMPI the adolescents on the Mental Health Unit showed greater signs of depression, anxiety and more psychotic conditions than the adolescents on the Alcohol Chemical Addiction Unit. This same instrument showed the females had more indicators of pathology than the males.

The SPPS showed fewer and smaller differences than the MMPI. The adolescents on the Mental Health Unit looked at the world less positively and they also expressed concern about their own future.

The male adolescents on both units showed they were less likely to follow through on commitments and had less positive peer relationships. They also had the desire to be more physically active than the females.

The author recommends the MMPI be the assessment instrument used in the clinical setting because it shows more and greater differences between the two groups of adolescents.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980

Stanley C. Knox, Chairperson

A SURVEY OF PARENTS OF ELEMENTARY SCHOOL STUDENTS TO DETERMINE THE NUMBER AND CHARACTERISTICS OF CHILDREN WHO HAD AN AVERSION TO SCHOOL AND THE RELATIONSHIP OF AVOIDING SCHOOL TO PRE-SCHOOL ATTENDANCE

Judith K. Larson

PROBLEM: The purpose of this study was to survey the parents of Fridley elementary students at Robert Lewis Stevenson Elementary School to determine the incidence and characteristics of elementary students who avoided or were afraid of school and whether there was any difference between those who avoided school and those that did not avoid school on the selected variables of: 1) grade, 2) sex, 3) number of children in the family, 4) position in the family,

5) pre-school experience, and 6) the descriptive behaviors while attending pre-school and elementary school. Another purpose was to determine if there were: 1) common characteristics of the school phobic child, and 2) what methods were effective in getting the child to school.

PROCEDURE: The instrument used to survey the parents was a questionnaire developed by the researcher. It was distributed to a population of 700 students, kindergarten through grade six. They were asked to have their parents/guardians complete the questionnaire and return it to the classroom teacher. Four-hundred and twenty-six questionnaires were returned (61% return). The responding parents reported 348 students had no problem in getting to school (82%) and seventy-eight students (18%) had some sort of problem, whether complex or minute.

Hypotheses were generated to determine if attendance in pre-school had any relationship to school avoidance problems. A descriptive study was also conducted concerning those seventy-eight children who had problems in school avoidance. Questions 11-20 on the survey were the descriptive variables that were answered by parents of the children. The variables were as follows: 1) the grade level the child first avoided school, 2) the length of unwillingness, 3) why was the child afraid of elementary school, 4) what behavior did the child display when trying to avoid school, 5) how did the parent get the child to school, 6) did they need assistance in getting the child to school, and 7) was the advice given appropriate in their opinion.

RESULTS: In the present study attendance in pre-school was not found to make a significant difference in whether a child did or did not later display school avoidance problems. It should not be concluded that pre-school in general may not lessen school problems. The lack of significant differences may have been due to the weakness of the questionnaire. Other instruments should be used to determine if pre-school attendance lessens school avoidance.

RECOMMENDATIONS: It is recommended that similar studies be conducted on attendance in pre-school and the parents' description of school avoidance behavior concerning those children who have been labeled as "school phobic" by professionals.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
James Lewis, Chairperson

FACTORS THAT INFLUENCE THE DECISION TO BECOME A SPECIAL EDUCATOR

Julie A. Larson

PROBLEM: The purpose of this study was to determine if intrinsic factors were the primary reason for people becoming special education teachers or were they choosing special education because of extrinsic factors such as greater employment opportunities, more job security, or other job related benefits. It also studied other factors present in the decision to choose teaching special education such as people that may have influenced them or prior experiences they may have had.

PROCEDURE: A questionnaire was used to acquire information about the student such as their intrinsic or extrinsic motivations, current level of education,

undergraduate grade point average, factors influencing them to teach special education, and previous experiences in special education. The questionnaires were completed by students (juniors, seniors, and graduate students). The results were analyzed for significance by using the Pearson Product Moment Correlation Coefficient to determine relationship between the extrinsic-intrinsic test and other variables.

RESULTS: Very few of the individuals questioned indicated extrinsic motivations. The majority of the students were either intrinsically motivated or had a mixture of motivations. Very little relationship between the extrinsic-intrinsic scale and other variables was found. The person that was most influential to individuals in making their career choices were other teachers. Most of the special education majors had some type of previous experience with handicapped people before making their career choices.

CONCLUSION: The extrinsic-intrinsic scale does not measure the variability for which it is labeled. It did not do an adequate job of measuring extrinsic-intrinsic factors. Teachers were by far the most influential to students when they were making career choices. The role model concept is reinforced in this study.

The majority of study had some type of prior experience with handicapped people prior to making the decision to become a special education teacher. This may have been influential in their choice of careers.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Stanley Knox, Chairperson

THE EFFECT OF PARENTAL EDUCATION ON PARENT'S SATISFACTION AND UNDERSTANDING OF THE INDIVIDUAL EDUCATION PROGRAM AND STAFFING

Bruce F. Lund

The effects of parental education on parents with children in the Educable Mentally Handicapped and Learning Disability Programs were examined. The research attempted to determine if the parent's satisfaction and knowledge of the Individual Education Program and staffings were increased because of educating parents.

An experimental group consisting of 20 parents, received one-half hour instruction while the control group, containing the same number of subjects, had no instruction. Each group was given the same survey and their results were compared.

The results revealed that instruction positively altered the parent's satisfaction and knowledge in the program explanation, the program the child would receive, test results, goals stated and reasons for having the staffing.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
Stanley Knox, Chairperson

A COMPARISON STUDY OF ACHIEVEMENT RESULTS BETWEEN LEARNING DISABLED
AND NON-LEARNING DISABLED IN A COMPENSATORY EDUCATION PROGRAM

Cindy F. Martin

Compensatory education programs have been developing over the last 20 years for the purpose of providing special educational services to culturally disadvantaged students. Most of these students often have not had adequate learning experiences in the home during the preschool years to prepare them for school life. This creates a gap in achievement which tends to widen with age.

Hillsborough County Florida has initiated a compensatory education program in its secondary schools. These students are periodically tested on a criterion-referenced test which measures basic skills in reading and mathematics. Many students in these C.E. classes are also classified as learning disabled. This study was for the purpose of determining if there is any significant differences between SLD students and non-SLD students in a C.E. program. A random sample of 50 SLD and 50 non-SLD students from five junior high schools was selected. Copies of their CRT tests from March 1979 and March 1980 were obtained. Mean scores were computed and t-tests were performed to determine any differences between groups.

FINDINGS: No significant differences were found between SLD and non-SLD students in reading or mathematics. Both groups were at approximately the same level of achievement, after one year of special C.E. classes. Overall achievement for both groups was quite minimal.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
Stanley C. Knox, Chairperson

AN ANALYSIS OF PARENTAL ATTITUDES AND EDUCATIONAL COMMUNICATION
THROUGH THE DUE PROCESS

Dennis J. Martin

In special education, the due process has taken dramatic steps forward with the implementation and interpretation of P.L. 94-142. The intent of this study was to determine if the special education due process is an effective procedure in increasing educational communication between parents and educators in a state institution public school setting.

The review of literature outlined the responsibilities of the public schools in implementing the due process. The literature also related the shortcomings of the public schools in not providing enough scientific data, underestimating parental thought processes, inappropriate scheduling, not communicating with the hard to reach parent, and generally not exposing all the communication tools for proper due process procedure.

The method of completing this study included the participation of ninety parents whose children reside at the Brainerd State Institution. A questionnaire was developed and a response of thirty-two mutually returned questionnaires were received (35.6%). The questionnaire sent to the parents was identical for both mailings. The questions were of a cognitive and attitudinal nature whereas 45% were attitudinal and 55% were cognitive. The three

descriptors used were agree, undecided and disagree. Information from the return was interpreted and tabulated.

The content of the results shows no significant difference in educational communication between parents and educators when proper forms of the due process are used. Regardless of the proper forms, parents are concerned about the distance in travel, the scheduling of teams during their work hours and a high return wonder if their child should ever attend school.

Preventive measures should be taken to reduce these attitudes by scheduling teams during non-working hours of parents, centering a team meeting in the parents environment and pursuing additional data on the rationale of parents not wanting their child to attend public school.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981

Stanley C. Knox, Chairperson

A STUDY OF EXPERIENCES AVAILABLE TO ST. CLOUD STATE UNIVERSITY
SPECIAL EDUCATION STUDENT TEACHERS DURING THE 1980-81
SCHOOL YEAR

Mary Jane Matthews

PROBLEM: This study attempted to identify the experiences available to St. Cloud State University Special Education student teachers in a variety of teaching sites as perceived by the student teachers and their supervising teachers.

PROCEDURE: This study was a 133 item questionnaire listing some possible experiences available to student teachers in Special Education. The subjects in this study consisted of 40 student teachers enrolled at St. Cloud State University. Their supervising teachers were also asked to volunteer. The student teachers were majors in Special Education at St. Cloud State University completing the final quarter of their resident teaching year in the spring of 1981. The final sample consisted of 30 student teachers and 37 supervising teachers who were anonymous.

The survey asked the participants to respond on a 4 point scale considering the availability of the experiences. The scale was: 1) not available in your setting, 2) just observed by resident teacher, 3) resident teacher can participate in with supervision, and 4) resident teacher can do independently (minimal supervision).

Chi-squares were computed on the data. The first variable was the position in the school: student teacher vs. supervising teacher, and the second variable was the age level of the setting: pre-school, elementary, middle, junior high, and senior high.

CONCLUSIONS: The following conclusions were determined from the data:

1. The general conclusion for the first null hypothesis is that we accept it. There is no difference in the perceived availability of the surveyed experiences by student teachers and supervising teachers.
2. The general conclusion for the second null hypothesis is that we accept it. There is no difference in the perceived availability of experiences between the age levels of sites: pre-school,

elementary, middle, junior high, and senior high.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Floyd Ayers, Chairperson

THE PREDICTIVE VALUE OF THE MOUND PSYCHOLOGICAL PRESCHOOL
SCREENING TEST ON STUDENT ACHIEVEMENT

Glenn R. Mayer

Each individual has an intricate matrix of social, economic, environmental, and hereditary factors which have been constructed in such a way that assessing a child's knowledge and capabilities and predicting future educational achievements has been a difficult task. It is a task that has been attempted many times. Varied and comprehensive test batteries have been used in many predictive studies. The present study was designed to assess the predictive capacity of the eight subtests of the Mound Psychological Preschool Screening Test (MPPST).

The MPPST has been given as a preschool screening instrument over a three year period. The data were obtained on the students at the end of the first, second, and third grades. A multiple regression analysis was conducted. The Title I Needs Assessment Scores and Reading Achievement Scores were used as criteria and the subtests of the MPPST as the predictors. The subtests Letter Naming and Counting to 20 were the most consistent contributors to the multiple regression. Other subtests that contributed to the significant multiple correlations were not as consistent.

A cross-validation sample was employed in the present study. There was considerable shrinkage in the predictive capacity of the subtests as the students progressed in school. Some of this failure may have been due to the increased variability in the smaller sample.

If a test battery was to be employed in the future it could be shortened to include just the subtests Letter Naming and Counting to 20, the two most predictive and most consistently predictive subtests. This would provide considerable savings in time and effort in preschool screening if one was just interested in the criteria used in the present study. All significant subtest scores for reading achievement were one or more standard deviations below the mean with the most significant subtest, Letter Naming, more than two standard deviations below the mean.

From these results, Letter Naming and Counting to 20 should be used as an initial screening test. Additional information can be gathered by using Picture Naming, Sentence Memory or Bender Designs.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
Floyd Ayers, Chairperson

A STUDY OF THE RELATIONSHIPS BETWEEN TWO MEASUREMENTS OF ATTITUDE: THE
STUDENT PERCEIVER INTERVIEW AND THE STUDENT POSITIVE PROFILE SCALE

W. Gil McCabe

PROBLEM: The purpose of this study was to compare two structured measurements

of attitude, the Student Positive Profile Scale and the Student Perceiver Interview. The following questions were dealt with in the study:

Is there a correlation between the two interview's total scores and sub-scores?

Is there a relationship between the two interviews within two separate populations (learning disabilities and mainstream)?

Do the interviews discriminate between the learning disabilities and mainstream groups?

PROCEDURE: Both interviews were administered to a population of 40 students, 20 from a learning disabilities program and 20 from the mainstream. The students were all in attendance in grades 9-12 at a high school in District #742 Community Schools. The two groups were matched by grade and sex. Pearson correlations, chi-squares and t-tests were used to analyze the data.

RESULTS: A significant relationship between the total scores and sub-scores of the two interviews was found to exist for the total population. A significant correlation was also found between the interviews with the mainstream population but not with the learning disabilities population. On both instruments, a significant difference was found between the scores on the mainstream and learning disabilities group.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981

James Lewis, Chairperson

A COMPARISON OF THE PERFORMANCE ON AN INTELLIGENCE TEST AND AN ADAPTIVE BEHAVIOR CHECKLIST OF SEVERELY AND MODERATELY RETARDED CHILDREN

Michael R. McKellips

Those working with the mentally retarded have come to the understanding that tests of intelligence and measures of adaptive behavior have their proper and respective places with respect to identification, diagnosis, prescription, evaluation and accountability. Both should be utilized to effectively serve retarded children and adults.

This study examined the relationships between the Leiter International Performance Scale (LIPS), an intelligence test, and six Special Intermediate School District #916 Special Education Curriculum Checklists of adaptive behavior.

Correlation coefficients were computed between the LIPS IQ, LIPS MA, Curriculum Checklists and sub-tests, student group placement, and age of LIPS data.

The LIPS had a significant relationship with the student's class placement. It also related very well with the curriculum components that have in the past been used to help determine class placement. The LIPS, being efficient in terms of time could, if used as a guide to placement decisions, hasten the introduction of educational programs to handicapped students within the #916 school district.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981

Stanley C. Knox, Chairperson

FINDING THE MOST EFFECTIVE TEACHING TECHNIQUE FOR A STUDENT
WITH SEVERELY IMPAIRED RECALL

Janet M. Meehan

The ability to recall mastered skills is an important element in the learning process. For individuals who have difficulty with recall, their impairment may seriously affect their total educational program.

A multi-modality teaching strategy was used to teach functional word definitions to an institutionalized, moderately retarded, brain damaged individual. The individual was capable of writing with a model, reading at a second grade level and had well developed receptive language skills. The technique consisted of reading and copying the target word and definition and then repeating the target definition without a model. A comparison was made to determine if mastery, generalization and retention was improved with massed presentations or with spaced presentations. Delivery of intangible reinforcers occurred with each of the presentations and delivery of intangible plus tangible reinforcers occurred when the presentation techniques were repeated. The present single case study implemented an A-B-C-D multi-element design. The investigation was carried out over 60 sessions, with each phase consisting of 15 sessions.

The number of functional word definitions mastered, generalized and retained by the individual using massed presentations, both with intangible and intangible plus tangible reinforcers was zero. The individual mastered, generalized and retained one functional word definition using spaced presentations with intangible reinforcement with a total of 150 repetitions. She mastered and retained one word definition using spaced presentations with intangible plus tangible reinforcement with 375 repetitions required. The word definitions mastered, generalized and retained during implementation of spaced presentations suggested that the spacing of presentations might be more productive. The use of intangible versus intangible plus tangible reinforcers did not produce any difference in the number of word definitions mastered, generalized or retained.

Modifications of the procedure, the length of word definition, and the time element are suggested for future study.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
James F. Lewis, Chairperson

CAREER EDUCATION CONCEPTS TAUGHT IN SENIOR HIGH SCHOOL PROGRAMS BY
TEACHERS OF MILDLY HANDICAPPED AS COMPARED WITH REGULAR
EDUCATION TEACHERS

Ann S. Monson

The purpose of this study was to determine the extent to which career education was being implemented by the various departments in the Anoka-Hennepin School District No. 11 and to compare the differences of utilization between special education and regular education teachers at the senior high level.

A survey was developed using Donn E. Brolin's Life Centered Career Education Curriculum Approach. Questionnaires were sent to all teachers of the

mildly handicapped and a random sample of approximately one-third of the regular education staff of the three senior high schools (Anoka, Blaine, and Coon Rapids). Responses were then tallied to establish which departments were incorporating the career education concepts into their curricula.

Analysis of the data indicated that the home economics' programs were utilizing the concepts of career education. All of the other departments were implementing the concepts to a limited degree. There appeared to be an insignificant difference between special education teachers and regular education teachers when applying the concepts of career education in their teaching.

Career education prepares students for the future and provides relevance to education. Career education should be an integral part of the curriculum for all levels and should involve the school, family, and the community. Career education should be an important aspect of the educational system for both mildly handicapped and regular education students. Teacher attitudes, along with the programs and curriculums need to be changed in order to fully utilize career education concepts.

APPROVED BY RESEARCH COMMITTEE, MAY 1982

William Lovelace, Chairperson

HOW SOME PSYCHOLOGICAL REPORTS ARE VIEWED BY EDUCATORS IN CENTRAL MINNESOTA

Carl H. Oberdorfer

This field study was designed to provide special education administrators and psychologists with data relevant to how psychological reports were being accepted by educators who use them the most.

Two hundred thirty-seven psychological reports were randomly selected which resulted in a response rate of 39.7 percent. Out of those ninety-four surveys which were returned, 85.1 percent were from elementary schools and 14.9 percent were from secondary schools.

A SPSS (Statistical Package for the Social Sciences) subproblem "FREQUENCIES," was utilized in order to obtain a descriptive analysis of the data. This procedure was to provide a relative frequency distribution for each of the response items included in the survey.

This investigator was particularly interested in the perceived adequacy of the formats used, and whether the psychological reports answered the questions listed by the referring person to his or her satisfaction. Also of interest was the reports' understandability, and whether the recommendations were functional, and finally whether the reports significantly influenced the methods used to educate special needs students. The results obtained were contingent upon an analysis of the percentages of responses within each category for each statement presented on the survey. These response percentages were then computed across building levels, i.e., elementary, secondary, and elementary-secondary combined.

An analysis of the present data would suggest that the respondents were very generous in their ratings for all ten survey items. For example, the mean and median ratings across all statements were 6.8 and 7.3 respectively. This places the overall rating of all items across psychologists at an approximate

rating of seven on a one to eight scale.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
Stanley Knox, Chairperson

THE SCHOOL CAREERS OF TRANSITIONAL CLASS STUDENTS

Teresa J. O'Connor Oie

The purpose of this study was to examine the school careers of former transition students that reflect the adjustment to the mainstream school system. This study determined the effects of transition on academic achievement, referrals and entrance into special education services, and attendance.

The method employed was the collection of data pertaining to former transition students that maintained membership at the public elementary school and matched students. The academic achievement of the students was determined by the reading, mathematical, and total battery scores from the Stanford Achievement Test and the Iowa Test of Basic Skills. Analysis of the cumulative records determined referrals and entrance into special education and attendance data of former transition students and matched students.

Results indicated that former transition students as a group attained a high degree of competency as measured by achievement tests during their elementary careers by performing in the average and high achieving groups. Findings also indicated that former transition students had fewer referrals and entrance into supportive services than was true with the matched students. Most of the former transition students remained in mainstream education without receiving special education services. The absentee rate of former transition students was lower than the matched students in the primary grades.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
William Lovelace, Chairperson

IMPROVING SECONDARY TEACHERS' ATTITUDES TOWARD AND KNOWLEDGE ABOUT HANDICAPPED STUDENTS THROUGH INSERVICE AND PRACTICUM

Rollen J. Oliver

This study investigated differences in attitudes toward and knowledge about handicapped students between a group of secondary teachers exposed to an inservice workshop, a group of secondary teachers exposed to the inservice plus a practicum and a group who receive no special treatment.

In this study statistical analysis of group scores on the attitude part of the questionnaire showed that the treatments of inservice and inservice plus practicum did not change the attitudes over the control group attitudes. However, both of the treatments increased the amount of knowledge the subjects had concerning handicapped students. No difference was found between the treatments on either attitude or knowledge in this study.

This study was limited to thirty secondary teachers in a small high school in southwestern Minnesota. Further research should be conducted to prove conclusively the interaction between the treatments of inservice and inservice plus practicum.

APPROVED BY RESEARCH COMMITTEE, MARCH 1981
Floyd W. Ayers, Chairperson

ATTITUDES OF TEACHERS TOWARD CATEGORICAL LABELS

Allison Jon Peterson

PROBLEM: The purpose of this study was to determine if varying attitudes exist among elementary and secondary regular classroom teachers toward specific categorical labels in special education.

PROCEDURES AND FINDINGS: The subjects for the study were 206 elementary and secondary regular classroom teachers in the Farmington and Lakeville school district. Seven schools were involved in the study.

All regular classroom teachers were requested to answer the Attitudes Toward Handicapped Individuals (ATHI) Scale. The instrument was modified by changing the term 'handicapped' to 'mentally retarded,' 'emotionally disturbed,' and 'physically handicapped,' thereby producing four forms of the instrument which was designed to measure attitudes toward specific groups as well as the generic term 'handicapped.'

The questionnaires were systematically arranged so that each of the four forms of the test were distributed to the sample population randomly. After the administration of the test, the responses were adjusted so that all scores were in the same direction; i.e., there was consistency in that all items had responses in which positive scores indicated a favorable attitude and negative scores indicated less favorable. Total scores were then computed for each subject.

The results were analyzed by using an Analysis of Variance with .05 as the accepted level of significance. Differences between the means were analyzed by using the Scheffe' test. In addition, a Chi Square was computed for each item to determine differences in proportion of responses for each group.

Findings indicated that no significant difference exists in the teachers' attitudes toward individual categories and the school district in which they taught. No significant difference exists in the attitudes toward handicapping conditions and the level of teaching, elementary and secondary. However, significant differences were noted between the attitudes within the categories. The mentally retarded and emotionally disturbed categories were perceived much less favorably than the physically handicapped and the generic term 'handicapped.'

SUMMARY AND CONCLUSIONS: It is apparent from this study that regular classroom teachers have lower expectations for the mentally regarded and emotionally disturbed children. This information can now be used to establish inservice training programs which deal with improving the regular classroom teachers'

perceptions toward these groups of children and dealing with misunderstood areas toward these specific categories in special education.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Stanley C. Knox, Chairperson

A BEGINNING TAP DANCE PROGRAM FOR TRAINABLE MENTALLY RETARDED STUDENTS

Mary Ann Randklev

PROBLEM: Although a considerable amount of work has been done in the area of creative dance for the handicapped, use of conventional dance forms has been largely neglected. The purpose of this study was to determine if two trainable mentally retarded women could learn tap dancing and, if so, what skill levels and generalization would exist.

PROCEDURE: Two trainable mentally retarded adult subjects were obtained by advertising tap dancing lessons through various agencies for the retarded. The two subjects were given sixteen half-hour tap dancing lessons during a period of eight weeks. Baseline and treatment data for nine tap dancing steps were collected at each session. A single subject experimental design with a multiple baseline was used with both subjects.

FINDINGS: Analysis of the data indicated that the two trainable mentally retarded women were able to learn to correctly execute the nine tap dancing steps with varying levels of rhythmic precision. Balance and rhythm were the main factors causing difficulty in mastering the steps. Repetition and choice of appropriate skill level steps were the major factors contributing to ease of step mastery.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Floyd Ayers, Chairperson

A STUDY OF THE PERCEIVED IMPORTANCE OF EXPERIENCES AVAILABLE TO ST. CLOUD STATE UNIVERSITY SPECIAL EDUCATION STUDENT TEACHERS

Ruth Ann Rankin

PROBLEM: This study attempted to identify the relative importance of a list of experiences available to St. Cloud State University Special Education Student Teachers as perceived by the Student Teachers and their Supervising Teachers.

PROCEDURE: This study employed a 133 item questionnaire listing possible experiences available to Student Teachers in Special Education. The subjects in this study consisted of volunteers from 40 student teachers enrolled at St. Cloud State University and their supervising teachers. The student teachers were completing the final quarter of their resident teaching year in

the spring of 1981. Cooperation was obtained from 38 student teachers and 30 supervising teachers who were anonymous.

The survey asked the participants to respond on a 5 point scale rating the importance of the experiences listed. The scale was: 1) irrelevant, 2) useful but not necessary, 3) important, 4) very important, 5) essential.

Chi-squares were computed for 1) responses of the various age levels of the settings and 2) responses of student teachers and supervising teachers.

CONCLUSIONS: The following conclusions were determined from the data:

1. There is no difference in the perceived importance of the surveyed experiences by the age levels of the sites.

2. There is no difference in the perceived importance of the surveyed experiences between student teachers and supervising teachers.

APPROVED BY RESEARCH COMMITTEE, MAY 1982

Floyd Ayers, Chairperson

AN ANALYSIS OF ATTITUDES TOWARD THE LANGUAGE ARTS PROGRAM AS EVIDENCED BY A CONSUMER SURVEY

Ron R. Rollins

The purpose of this study was to determine the degree to which consumer attitudes differ, if any, toward the school's language arts program. The writer assumed that there would be no difference in the opinion of students, graduates and parents in response to nineteen statements on a consumer survey.

The study was limited to one school district with a total enrollment of approximately 1700 students, kindergarten through the twelfth grade. Data for the study was gathered by means of a questionnaire designed by the author to measure the attitudes of the three groups selected for the sample toward the language arts program.

The results of the study might prove useful for the school and community of Albany to improve or strengthen specific curriculum weakness identified by the survey. Specifically, those involved with curriculum development such as teachers, administrators, and the curriculum committee may benefit from the study.

The population from which the sample was taken contained a total of 272 consumers of whom 111 were twelfth grade students, 73 were five year graduates, and 88 were parents of school aged youngsters. Information for the sample was gathered using the 1978-79 student class list, 1973-74 class list, and the 1978-79 school census data. Participants from the school census were selected on a random basis.

Data collection began in May, 1979, and continued through August, 1979. Follow-up letters and phone calls were used to insure a maximum response rate. Originally, the questionnaires were sent through the mail.

The results suggest that the members of the selected sample have significantly different opinions in regard to almost half the questions on the survey. Generally, the differences occur between the responses of parents and the other two groups surveyed.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980

Stanley C. Knox, Chairperson

A DETERMINATION OF THE EFFECT OF SENSORY DIVERSION ON THE SELF-INJURIOUS BEHAVIOR LEVEL IN TWO PROFOUNDLY RETARDED, MULTIPLY HANDICAPPED FEMALES

Lynn Lenore Johnson Scharenbroich

Dealing with self-injurious behavior in the classroom is a trying problem. Often it is not possible to determine the causal factors for the behavior and steps must be taken to approach the problem from other directions.

In this study, self-injurious behavior was treated through the use of sensory diversion. The change in behavior was assessed for both increase or decrease and the relationship between duration and frequency.

Two profoundly retarded, multiply handicapped female students were observed and treated. The entire procedure was done in four parts, baseline, assessment, implementation, and return to baseline (A, B, B₁, A). Each phase ran until 24 instances had been recorded or a maximum of 10 days had elapsed.

Results indicated that the sensory diversion of choice (determined by the assessment) did reduce both the frequency and the duration of the self-injurious behavior in a direct relationship. A probe done nearly a month after formal programming had ceased, showed that when the chosen sensory diversion was in operation, the behavior remained controlled.

APPROVED BY RESEARCH COMMITTEE, MARCH 1982

James Lewis, Chairperson

THE EFFECTS OF INSERVICE TRAINING ON ATTITUDES OF JUNIOR HIGH SCHOOL TEACHERS TOWARD LEARNING DISABLED AND EDUCABLE MENTALLY HANDICAPPED STUDENTS

Susan B. Schlicht

PROBLEM: The purpose of this study was to determine if participation in short, small-group inservices improved the attitudes of junior high school teachers toward the mildly handicapped students in their classrooms.

PROCEDURE: The subjects for this study were twenty-nine content area teachers in one junior high school. The instrument used was an opinion survey to assess the regular classroom teachers as to attitudes toward mainstreaming.

The teachers were divided into four groups for the purpose of inservice; half of which completed the pre-survey. All subjects participated in the inservices and were asked to complete the post-survey.

Survey results were analyzed for significance at the .05 level by use of the chi-square technique.

RESULTS: There were no significant differences in attitudes in comparison of pre-survey items to post-survey items. However, minor changes were noted on the items relating directly to the content of the inservice such as, acceptance of the mainstreaming philosophy, in understanding eligibility criteria, and in participating in Individual Education Program (IEP) conferences.

CONCLUSION: It was concluded that both special and regular educators are willing to work together to improve programs for the mildly handicapped. There

is a need for increased awareness, knowledge, and skills to facilitate accommodation.

A general conclusion was also made that research needs to produce more-refined attitudinal scales. Studies need to be generated in the areas of whether expressed attitudes are manifest of actual behaviors and in isolating the behaviors that handicapped students engage in that are responsible for the attitudes toward them.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Stanley C. Knox, Chairperson

THE EFFECTS OF TWO TRAINING PROCEDURES ON THE ACQUISITION, GENERALIZATION AND RETENTION OF MANUAL SIGNS BY SEVERELY OR PROFOUNDLY RETARDED STUDENTS

Kathleen M. Schwarze

The ability to communicate is an important element in the learning process. Therefore, individuals who have no verbal speech must be taught an alternate manner of communication. Psychologically and emotionally, children need some form of communication to make their wants and desires known. Consequently, a manual communication program may be very appropriate in meeting educational needs for severely and profoundly retarded students.

In this study, utilizing a multiple-baseline design, two teaching procedures were used to train manual signs to four institutionalized severely or profoundly retarded subjects. During training sessions the subjects were taught to initiate a manual sign under two different, yet similar conditions. The first condition involved training manual signs through the use of rebus symbols. Whereas, the second condition trained the subjects to initiate a manual sign through the use of actual objects. A comparison was made to determine if there was a significant difference in the rate of learning, generalization and retention between the two teaching techniques. The investigation was carried out over a period of four months as an extended portion of the subjects' school day.

The multiple-baseline data of this study demonstrated that manual signs could be taught to the four subjects using either a rebus picture or the actual concrete object. Although the results are not conclusive, it was shown that the mean rate of acquisition using rebus pictures was slightly faster than the mean rate of training with objects. In addition, a noted difference in the mean percent correct was shown on the stimulus generalization checks. The results demonstrated that the four subjects could generalize from rebus symbol training to the actual object identification with greater ease than from object training to the rebus picture identification. No significant difference in retention was shown between the two training procedures.

The results of this case study should be viewed as a step toward developing a useful and workable curriculum for training manual communication to the severely and profoundly retarded and the limitations of the data should provide avenues for future research in this area.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
William E. Lovelace, Chairperson

A STUDY OF THE EFFECTS OF THE WORK EXPERIENCE CAREER EXPLORATION PROGRAM AS A JUNIOR HIGH SCHOOL DROPOUT PREVENTION PROGRAM

David A. Shemon

PROBLEM: This study investigated the effectiveness of a Work Experience Career Exploration Program (WE/CEP) as perceived by four groups; faculty, students, parents and employers. The WE/CEP had been in operation for five years (1974-79). During these years no systematic evaluation had been conducted.

PROCEDURE: All of the WE/CEP students, their parents, their teachers and their employers were sent questionnaires about their perception of the effectiveness of the program. Permission to conduct the survey was obtained from the Superintendent of Independent School District #129 of Montevideo, Minnesota.

RESULTS: Approximately 70% of all four groups returned the questionnaire. The data indicated that the WE/CEP was preventing school dropout and was meeting the needs of the students. This opinion was held by all four of the respondent groups.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
Joan Bigler, Chairperson

A STUDY OF THE DAILY WORK ACTIVITIES OF SPECIAL EDUCATION TEACHERS

Kay J. Thyre

PROBLEM: It was the purpose of this study to survey the special educators' school day. Special education teachers reported information on the nature of activities, the amount of activities and the amount of time spent on job related tasks mandated by legislation.

PROCEDURE: A chart containing a list of 34 work activities was distributed to special education teachers to report work activities for one week. The chart contained two time arrays, one for reporting work time and one for personal time. Twenty-four full time teachers participated in the study. Teachers were divided into three sub-groups for tabulation of results. The three groups were ten SLD, EMH, elementary teachers, nine SLD, EMH and ED secondary teachers and five TMH teachers. Data from eight part time SLD teachers were included in part of the study. The sample was drawn from two groups: members of the 1979 St. Cloud special education summer school practicum and special education teachers from a mid-sized suburban school district.

RESULTS: The data were displayed on 13 tables. Percentages were computed on: (1) work time spent on daily activities for each sub-group and then comparisons were made across the sub-groups; (2) percent of activity time that was work and personal time spent per week for each sub-group and then compared. There was a similarity between the three sub-groups of teachers on the types of activities on which the most time was spent. The first five activities common to the three sub-groups were: (1) direct service, (2) consulting with team, teachers,

specialists, parents, etc., (3) prep-time for teaching, (4) writing reports, and (5) diagnostic and informal testing. Three of the five activities most frequent were mandated by legislation. It appeared that special education teachers were giving of their own personal time to aid school districts in meeting the requirements of Public Law 94-142. One major conclusion that may be drawn from this study based on low teacher participation in the study was that special education teachers were too busy to take part in a week's study of their time.

RECOMMENDATIONS: Further studies of teacher time involving more teachers and covering a full school year could be done to get more thorough data. Other studies that could be done would be to survey part-time teachers use of personal time for their jobs. Special education teachers could be involved in a study of teacher burnout and teacher morale.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
James Lewis, Chairperson

CHANGES IN DISRUPTIVE PUPIL BEHAVIOR AND ACADEMIC PERFORMANCE AS A FUNCTION OF TEACHER BEHAVIOR

Karen G. Timmons

The purpose of this study was to determine how teacher behavior affects student behavior and how academic performance is affected by a student's behavior. It also tried to determine if teachers were maintaining skills of behavior modification techniques.

The method employed was the collection of data of both student's and teachers' behaviors. The student was also administered pre and post-tests during the study to see if academic performance was affected. A ten-month follow-up of teachers' behaviors was conducted to see if teachers were maintaining skills of behavior modification techniques.

Results indicate a relationship between teachers' behavior and student's behavior. A substantial improvement in performance in math and reading was noted. Teachers were found to be maintaining behavior modification techniques at a high rate ten months after the initial study.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1980
William Lovelace, Chairperson

A FOLLOW-UP STUDY OF STUDENTS TERMINATED FROM AN ELEMENTARY SPECIAL LEARNING DISABILITIES PROGRAM

Patricia Tjosvold

The purpose of this study was to determine the impact of the special learning disabilities (SLD) program in the elementary school in the Anoka-Hennepin School District in Minnesota. Children receiving two or more years of instruction in the SLD setting and terminated before seventh grade were

compared to a random sample and to those students currently enrolled in a SLD program on the California Achievement Test and on final grades received in seventh grade.

It was hypothesized that there would be no significant difference between children terminated from a SLD program and a random sample on the California Achievement Test scores and final grades in science, social studies, English, math, music, art and physical education.

The results of the study show that children terminated from a SLD program after at least two years of service performed as well in the reading section of the California Achievement Test as the random sample of seventh graders but did not produce math scores equivalent to the random sample on the same test. In the final grades of the seven subject areas noted above, the terminated SLD students showed a significant difference from the random sample of seventh graders. Children terminated from a SLD program are, according to this study, functioning at the same level as the children currently enrolled in a SLD program and receiving direct services.

APPROVED BY RESEARCH COMMITTEE, MARCH 1981

Joan Bigler, Chairperson

ACHIEVEMENT USING MODIFIED CURRICULUM AND NON-TRADITIONAL INSTRUCTION TECHNIQUES

Ruth Ann Tunks

PROBLEM: This study proposed to address the question of whether the educationally handicapped who receive non-traditional instruction and modified curriculum will achieve at a greater level than those who receive traditional instruction in a traditional classroom of the same subject and same grade level.

PROCEDURE: Two eighth grade English classes were compared. Each class contained thirty students, six of whom are having or have received service in a special education program. One class received instruction by the teacher-lecture methodology, the other class received instruction by the station approach and also received modified curriculum in the literature unit. The Lorge-Thorndyke, weekly quizzes and a final comprehensive exam were the measurement tools. The results were analyzed by the t-test, analysis of covariance and the Mann-Whitney U tests.

RESULTS: A significant difference between the groups was found in the unit of nouns and verbs. A relationship was found with the method of instruction and learning gains. There was not a significant difference between the educationally handicapped who received the modified curriculum or the non-traditional instruction and those who received the traditional instruction.

APPROVED BY RESEARCH COMMITTEE, MARCH 1981

Stanley Knox, Chairperson

CHARACTERISTICS AND SKILLS OF SPECIAL EDUCATION TEACHERS AS PERCEIVED BY REGULAR EDUCATORS

Margaret Freeman Warrelmann

PURPOSE: The purpose of the study was to rank those characteristics and skills which contribute to a special educator's effectiveness in working with regular educators in mainstreaming situations as perceived by regular educators. Another purpose was to determine if there was a significant difference in the response to any of the items on the survey by educators in different grade levels, with different years of experience, with different subject matter areas, with or without special education students in their classrooms, and with or without training in working with special education students.

METHOD: The instrument was in questionnaire form. It was accompanied by a cover letter and sent to regular education teachers in six schools in northwest Iowa. These educators had an average of 11-15 years of experience and ranged evenly across grade level and subject matter taught. Most had special education students in their classrooms and less than half had training in working with special education students. The survey asked the regular education teachers to answer five background questions and then to rate several items on their importance to a special education teacher's effectiveness in working with regular classroom teachers in mainstreaming situations. The items were divided into four areas--activities, skills, experience and training, and personality characteristics. The responses were tabulated and the mean response for each item was calculated. Significant differences in frequency of response were determined by using Chi-square statistical treatment.

RESULTS: In rating the items, regular educators viewed the skills of a special education teacher as being more important than the teacher's involvement in activities or the educational and training background of that teacher. The skills which had the highest mean response were consulting regular education teachers for data and communicating with regular classroom teachers about students on a regular basis. Several significant differences in frequency of response were found especially between elementary and secondary teachers. The elementary teachers tended to attach more importance to most of the skill statements than did secondary teachers.

DISCUSSION: Because of this study, implications exist for special education teacher training programs, special education teachers' behavior, and further research. Training programs should address themselves to providing classes to aid in consultation and communicating skill development. Special education teachers should be aware of the perceived importance of various behaviors and the differences that exist between the expectations of elementary and secondary teachers. To see if the results repeat, the study should be done in other parts of the country. Research should be done to explain why the significant differences do exist. A very important question to be answered is: If a special education teacher possesses and does all the important items on the survey, will that result in an effective mainstreaming program?

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Stanley C. Knox, Chairperson

THE EFFECTS OF PAIRING BLISSYMBOLICS WITH VERBAL LABELS IN FACILITATING
WORD-OBJECT ASSOCIATION AMONG TRAINABLE MENTALLY HANDICAPPED STUDENTS

Mollie J. Wise

Investigative attempts to facilitate visual discrimination learning in trainable mentally handicapped students have met with limited success in promoting an association between an auditory signal (i.e., verbal label) and its corresponding referent. Given the importance of verbal labeling in the hierarchy of receptive language acquisition, it would seem imperative that an additional signal be hypothesized and tested which might increase the discriminability between various common objects and various verbal labels.

The investigation employed a quasi-experimental non-equivalent control group design in which four primary-level trainable mentally handicapped subjects were selected from existing classrooms, matched on relevant subject variables, and randomly assigned to a control or experimental group. All subjects were administered a pre-assessment of the dependent variable (i.e., word-object association), the experimental group trained with manipulation of the independent variable (i.e., simultaneous presentation of a Bliss symbol with its corresponding object and verbal label), the control group trained with the object and its verbal label only, both groups systematically probed to assess progress during the training phase, and finally, all subjects re-administered the pre-assessment as a post-assessment instrument.

The data generated by the pre-assessment, probe, and post-assessment performance of the four subjects was descriptive in nature and not suitable for statistical analysis due to the small size of the subject sample. With the exception of immediate gains achieved by one control subject, members of the experimental group appeared to have more rapidly and completely established an association between the twenty objects and their verbal labels. Generalization of the results was not indicated, however.

Replication of this procedure in a normal classroom environment with a larger subject sample and a wider variety of objects, labels, and Bliss symbols is recommended.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
William E. Lovelace, Chairperson

A NATIONAL STUDY OF STATE AND LOCAL LEADERSHIP OF
PROGRAMS FOR SEVERELY HANDICAPPED

Mark A. Wolak

PROBLEM: Including the severely handicapped within special education services has placed new demands on special education leadership regarding role, facility needs, curriculum, instruction and many other responsibilities. Leadership personnel of programs for the severely handicapped must have specialized training, special certification and specific experience that will prepare them for the complex and extensive task of supervision.

PROCEDURE: Two hundred forty-seven SEA and LEA leadership personnel were surveyed by questionnaire to gather information regarding program, position, educational background and training and other information.

FINDINGS: Results indicated (1) there are few, if any, training programs for specialized supervisory personnel of programs for the severely handicapped, (2) a very limited number of current SEA and LEA administrative and supervisory personnel of severely handicapped programs possess specific training, special skills and special certification for their role and function and have gained their experience without these requisites, (3) little commonality exists from state to state as to what program development and legislation is necessary and, (4) most public school programs for severely handicapped are operated within or associated with state residential institutions.

CONCLUSIONS: Data provided further evidence for (1) the establishment of specific legislation which makes provision for the education of the severely handicapped, (2) the development of minimum standards for program operation and services to the severely handicapped, (3) the need for leadership personnel to have specialized training and specific experience that will prepare them for the complex and extensive task of supervising a program for the severely handicapped and, (4) the assignment of leadership personnel to be made on the basis of this training and experience.

APPROVED BY RESEARCH COMMITTEE, MAY 1981
Stanley C. Knox, Chairperson

COLLEGE OF FINE ARTS AND HUMANITIES

ENGLISH

POE'S LITERARY HEROINES AND VIRGINIA CLEMM

Margaret E. Brossoit

The realities of Poe's personal life can be traced in the inner workings of his tales, most specifically the five tales in the Marriage Group: "Berenice," "Morella," "Ligeia," "The Fall of the House of Usher," and "Eleonora." These five tales were written during Poe's proposed engagement and early years of marriage, and they contain the only heroines in his fiction. It is the purpose of this thesis to show that the prototype for these five heroines was Virginia Clemm, Poe's young cousin-wife.

In order to support that theory, the nature of Poe's relationship with Virginia Clemm had to be established. Resulting evidence suggests that the marriage was one of convenience rather than love. As a result, Poe's feelings were highly ambivalent. The marriage suffered from the lack of a satisfying sexual and intellectual relationship. The relationship was far from ideal.

Viewed in the light of this relationship, the similarities of Poe's five tales in the Marriage Group have a rational explanation. One repetitive pattern is the similarity of situations in Poe's life and situations in the tales. The primary characters are suggestive of Poe himself. In all five tales, physical passion is all but absent, just as it was in Poe's own life

with Virginia. Another striking similarity is that the heroines all die and at a youthful age, as Virginia herself did.

The ambivalent feelings with which Poe approached his marriage suggest he both needed Virginia and wished an end to the relationship. Thus, Poe wished his heroines dead, symbolizing the death-wish of his relationship with Virginia. After the five Marriage Group tales and Virginia's death, Poe created no more heroines in his prose. The tales reveal the reality of Virginia's presence in Poe's life and fiction.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980

Armand E. Falk, Chairperson

THE USE OF CHRISTIAN ICONOGRAPHY IN SELECTED MARGINALIA OF J. R. R. TOLKIEN'S THE LORD OF THE RINGS

Lynn Bryce

Because the tone of J. R. R. Tolkien's The Lord of the Rings is pervasively medieval and frequently Christian, his use of imagery can be effectively compared with the traditional marginal ornament of illuminated manuscripts. It is the intention of this thesis to show that the religious nature of J. R. R. Tolkien is expressed through his careful use of the pictorial themes of Christian iconography as ornament or, as they are called in this thesis, marginalia.

The iconography of Christian art was formulated in the first quarter of the twentieth century, and it is concerned with individual pictorial themes; their origin, their connection with Biblical texts, dogma, liturgy, devotional writing, and religious trends. In this study it is this iconographic method of examination which will be applied to J. R. R. Tolkien's use of visual imagery. In order to use Christian iconography effectively, Tolkien has combined his sophisticated knowledge and training as a scholar of medieval languages and literature, his life-long aptitude and experience as a painter, and the Christian devotion which pervaded his entire life.

This thesis traces Tolkien's use of iconography through the Lothlorien chapters, the approach to Mordor chapters and the chapters in which Sam and Frodo are actually in the stronghold of Sauron, the Mordor chapters. Through images such as the star and fountain, the Lothlorien chapters deal with concepts such as purity and rebirth. In the same way, images such as lembas, dogs, elephants, and different types of trees, are used to explore the concepts of spiritual food, cowardliness, foreboding and sacrifice, as the party approach Mordor. When Sam and Frodo are in the land of Sauron, Tolkien not only builds upon the iconography he has already presented, but he also uses Frodo's nakedness, wounds, and the donning of orc clothing to allude to the Mocking and Flagellation of Christ. Similarly, Tolkien's use of the wheel of fire and the Christian typology it suggests alludes to the Transfiguration and Ascension of Christ.

Through Tolkien's cumulative use of Christian iconography, he is able not only to make a Christian statement which he felt to be important, but also to tell us that there is an order imposed upon what we see by our past--not by what we actually see, but in the way we perceive what is presented to our

vision. Not surprisingly our perception is schooled by what we have been taught to expect.

APPROVED BY RESEARCH COMMITTEE, MARCH 1981
John Melton, Chairperson

GEORGE SAND, MRS. GASKELL, AND "HEROINISM"

Mary A. Mader

Although George Sand and Mrs. Gaskell were contemporaries, their works have not been studied comparatively. Their different nationalities and their radically opposed life styles suggest that they would share in common only the writing of novels and the benefits of literary success. However, a comparison of their first novels, Indiana and Mary Barton, reveals a similar concern with the female condition and an exploration of non-traditional heroines that leads to the discovery of a central paradox in the work of George Sand and Mrs. Gaskell-- that the concept of heroinism, for the nineteenth-century literary woman, involved both echoes of patriarchal images and the stripping away of those images. The result is a consequent movement toward a feminist redefinition of the mature heroine.

"Heroinism," a term used by Ellen Moers in Literary Women, refers to literary feminism, or an author's attempt to create a different female hero than those generally portrayed. One type of heroine, the passionate woman in love who expresses her sexuality, is entertained in Indiana. Another type, the educator, leader, and reformer who expends her epic energies for a great cause, is delineated in Mary Barton.

Varying in approach and development, both novels explore the feminist issues of male-female relationships, seduction and betrayal, the marriage choice, and self-definition. Both George Sand and Mrs. Gaskell dramatize these concerns by showing us how their respective heroines deal with a society that imposes a double standard and rigid role definitions on women. Both writers defend a woman's right to make the decisions which affect her life and her right to rebel against unjust, sexist conventions. Indiana refuses to endure the Victorian role of child-wife, deserts her oppressive husband, and chooses to experience love and express her sexuality with a lover. Mary Barton refuses traditional female roles and instead adopts a hero concept normally portrayed in men. Mary Barton proves her love and worth by rescuing her lover from a false murder conviction and her father from the guilt of a double murder. In this way, Indiana and Mary Barton represent two concepts of the heroine central to an understanding of Victorian fiction.

APPROVED BY RESEARCH COMMITTEE, MAY 1981
James Lundquist, Chairperson

JOHN CHEEVER AND THE AMERICAN DREAM

Elizabeth A. Spaeth

The American Dream is a popular concept in America, familiar to virtually everybody. Its history is as old as the country, having its roots in the

promise of the rich lands, the ideals of government and the highest hopes of the human heart. Analyzed, it can be divided into two parts: a spiritual element that responds to the ideas of human nature--justice, love, beauty, truth--and a material element that strives to satisfy man's cravings which are more concrete--physical comforts and worldly success and adulation.

Throughout this country's history each of the components of the American Dream, the spiritual and the material, has played an important part in a vision of happiness. A gradual shift in emphasis, however, became evident in the early twentieth century. The material element gradually assumed the role of the complete Dream, offering worldly success and wealth as the measure of happiness. Today many Americans think that by pursuing wealth and success they will capture the American Dream.

John Cheever is a contemporary author of novels and short stories. Many of the characters he creates pursue a life of wealth and success in the hope of achieving the American Dream. They struggle to find happiness without a spiritual dimension in their lives. Particularly in his short stories, Cheever concerns himself with the missing spiritual element.

Cheever's suburban world is a capsule of American society where the narrowed version of the American Dream is nourished and apparently thrives. His characters are people who grope and flounder in their misdirected search for happiness. But Cheever offers his bored, frustrated characters hope. He allows them to discover the missing dimension in their existence--a spiritual dimension that fills his characters and his readers with a heightened awareness of the possibilities of life.

Cheever's technique is instrumental in accomplishing his theme of the renewal of man's spiritual life. Through his careful selection of imagery, tone and diction, he depicts man's continued longings unsatisfied by material benefits. He shows his characters' recognition of their folly, their rebirth, and, finally, their participation in their new-found spiritual life. Cheever's discovery of spiritual life in stifled suburban Americans, recognized and admired by contemporary scholars, is a promise of hope for all Americans.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Elizabeth S. VanPelt, Chairperson

SPEECH SCIENCE, PATHOLOGY AND AUDIOLOGY

A COMPARISON OF THREE MODES OF STIMULUS PRESENTATION AND THEIR EFFECTS ON VERBAL RECALL IN PRESCHOOL CHILDREN

Kathy L. Miller

PURPOSE: The purpose of the present study was to determine the relative effectiveness of three modes of stimulus presentation on the verbal recall abilities of preschool children. The three presentation conditions employed were: Condition 1) visual cue (picture) plus verbal label (word); Condition 2) visual cue plus verbal label plus manual sign; and Condition 3) visual cue plus verbal label plus a verbal statement regarding function.

PROCEDURE: Two experiments were conducted. The same six subjects, ages 51 to 66 months, participated in both experiments. The stimulus pictures used in Experiment I were different from those used in Experiment II. Each experiment was conducted over a three-day period with training sessions for the three modes of stimulus presentation occurring each morning and verbal recall sessions occurring each afternoon (four hours after training) and the following morning (24 hours after training). While subjects in Experiment I were trained to 100% verbal recall of the stimuli, subjects in Experiment II were only given two presentations of the stimulus material. All other procedures were identical for the two experiments. Correlated T-tests were employed to determine whether significant differences existed between presentation conditions during short-term verbal recall (STR) and long-term verbal recall (LTR) for either experiment. Correlated T-tests were also implemented to assess the difference between STR and LTR scores following each training condition for each experiment. Short-term verbal recall and LTR were also compared across experiments to assess the effect of training. Finally, an analysis of variance (ANOVA) was utilized to determine whether the recall scores obtained in the two experiments were significantly different and further whether a significant difference existed between STR and LTR as a function of experimental groups.

RESULTS: Differences between verbal recall scores as a function of presentation condition for STR and LTR in Experiments I and II were nonsignificant. Comparison of verbal recall for each condition across recall sessions for each experiment found no significant difference for Experiment I whereas LTR was significantly greater than STR in two conditions in Experiment II. Short-term verbal recall and LTR were compared across experiments to assess the effect of training. For STR, performance for two of the three presentation conditions was significantly greater for Experiment I than Experiment II. However, no significant difference was observed when LTR scores were compared across the two experiments. In other words, amount of training appears to affect the accuracy of STR but has no effect on LTR.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981
Gerald L. Powers, Chairperson

COLLEGE OF SCIENCE AND TECHNOLOGY

BIOLOGICAL SCIENCES

DETECTION OF *FASCIOLOIDES MAGNA* INFECTIONS IN VERTEBRATE HOSTS BY IMMUNOLOGICAL METHODS

Robert P. Jechorek

Livers and blood samples were collected from white-tailed deer (*Odocoileus virginianus*) on the day the animals were killed during hunting season. After

removal from the livers, 17.6 g wet weight of whole flukes (approximately 6 adult flukes) were ground in 40 ml of cold 0.05 M phosphate buffered saline (PBS). Debris was removed by centrifugation at 9,500 x g for 1 hr then at 50,000 x g for 2 hr. A 10 ml sample of the supernatant was applied to a DEAE cellulose anion exchange column. Four fractions were eluted by a continuous gradient of 0.05 M to 1.5 M PBS, pH 7.4. The fractions were tested for antigenicity by countercurrent immunoelectrophoresis in 0.8% agarose against serum from a moose (Alces alces) infected with F. magna. Since all four fractions exhibited antigenic activity, sodium dodecyl sulfate (SDS) tube gel electrophoresis was used to determine the molecular weights of the fractions as well as to determine if there were proteins in common. Electrophoresis indicated there were many proteins common to the fractions with two prominent protein bands in the cathode end of the gels.

Results of this study indicate there is no one fraction that could be described as a "definitive" antigen useful for the detection of F. magna infections in vertebrate hosts.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981
John F. McCue, Chairperson

ABUNDANCE AND DISTRIBUTION OF FISH POPULATIONS OF THE MISSISSIPPI RIVER NEAR ST. CLOUD, MINNESOTA

Merlene K. Knotts

In the Mississippi River between St. Stephen and St. Cloud, including rapids and reservoir areas, twenty-five fish species were identified during the period of June through October of 1980. The major sampling method was direct current electrofishing, along with seining, gill netting, and trapping. A total of 824 fish were collected during 16.8 hours of electrofishing. In fish per hour, the most abundant fish were the carp, Cyprinus carpio, the shorthead redhorse, Maxostoma macrolepidotum, the white sucker, Catostomus commersoni, the smallmouth bass, Micropterus dolomieu, and the silver redhorse, Moxostoma anisurum. There were approximately 80 percent rough fish, 15 percent game fish, 4 percent sportfish and others, and 1 percent small fish. One channel catfish, Ictalurus punctatus, was collected, which represents the farthest north this species has been caught in the Mississippi River. The diversity index in this study was 2.23.

In the Sauk River, white suckers and silver redhorses were marked in June for population studies. The adult silver redhorse population estimate of 7,860 was higher than the adult white sucker population estimate of 1,460. The catch per unit of effort (c/f) data also indicated that silver redhorses were more abundant than white suckers.

Downstream from the mouth of the Sauk River, the west side of the Mississippi River had statistically significantly higher alkalinity and specific conductance and lower clarity than the east side of the Mississippi River. The white sucker was more numerous along the west bank, whereas, the carp, the shorthead redhorse, the silver redhorse, and the smallmouth bass were more numerous along the east bank. However, observed differences in water quality between the east and west banks did not seem to affect fish distribution in the Sauk River. The presence of two species of Moxostoma, which are indicators of clean water, downstream from the St. Regis Paper Company mill indicated little, if any, effect of the pulp mill effluent.

The shorthead redhorse, the silver redhorse, and the white sucker preferred the rapids to the reservoirs. The shorthead redhorse and the white sucker had the highest c/f during lowest water temperatures. The highest c/f for the silver redhorse occurred in mid-June. The abundance of the three species in the rapids in mid-June was probably due to spawning.

The carp and the smallmouth bass were numerous in both the rapids and the reservoirs. The two species were more vulnerable to electrofishing during low river discharge. The carp c/f was relatively constant in each section. The high c/f for carp may have been due to the species frequenting the shallows for feeding and spawning. The reason for the high c/f for the smallmouth bass from late July through October was the presence of juveniles.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1981
Steven F. Williams, Chairperson

PERIPHYTON INVESTIGATIONS IN THE MISSISSIPPI RIVER NEAR BECKER, MINNESOTA

Glen Marcus Kuhl

A study of the attached algae community of the Mississippi River near Becker, Minnesota, was conducted from 11 June 1975 through 12 November 1975. Artificial substrate samplers placed on the riverbed at three depths provided algal assemblages for chlorophyll *a* and diatom analyses.

Chlorophyll *a* concentrations were highest at the shallowest sites in both transects while lowest concentrations were observed at the deepest sites due to increased light attenuation and abrasion of the substrate by shifting bottom sediment.

Percent composition data of the diatom flora at Station IA indicated Diatoma vulgare, Navicula salinarum var. intermedia, Cocconeis placentula, Gomphonema olivaceum, and Achnanthes lanceolata var. omissa were dominant forms in this study and studies conducted by Knutson (1976).

APPROVED BY RESEARCH COMMITTEE, MAY 1981
K. M. Knutson, Chairperson

COMPARISON OF BLOOD PROTEINS FROM ALLOPATRIC POPULATIONS OF THE AMERICAN TOAD (BURO AMERICANUS) BY ISOELECTRIC FOCUSING

Jamie Love

The Apostle Islands at the northern tip of Wisconsin in Lake Superior provide an opportunity to study the speciation process which may be occurring among the islands. The American toad is found throughout the archipelago and was chosen

as the research animal. Blood samples were drawn from 81 toads collected on three islands and the adjacent mainland. Isoelectric focusing was used to separate the serum along a pH gradient into its constituent proteins according to their isoelectric points.

The data were processed by computer to determine if any protein(s) were unique to any single population, to create a matrix of similarity coefficients between all possible pairs, and to use this matrix to create a clustering dendrogram.

The results indicate that no protein is unique to any population. The computer was unable to cleanly cluster any of the four populations. This indicates that either speciation was not occurring to a measurable degree or that the procedures were inadequate to detect it.

APPROVED BY RESEARCH COMMITTEE, NOVEMBER 1981

John Cronn, Chairperson

ECOLOGY OF A WHITE PELICAN COLONY IN BIG STONE COUNTY, MINNESOTA

Daniel J. Orr

KEY WORDS: American white pelican, Pelecanus erythrorhynchos Gmelin, Minnesota, breeding, color marking, foraging methods, migration, productivity, wintering areas.

White pelican nesting, productivity, foraging and migration in west-central Minnesota were investigated in 1976, 1977 and 1978.

The pelicans returned to the colony in mid-April and courtship activities began immediately. Nest site selection followed pair formation. The peak of nesting activity occurred from 25 April to 5 May in 1978. The first eggs were laid four to five days after a nest site was chosen. Bare substrate was preferred to vegetated areas. Vegetation was eliminated at sub-colony sites and did not return the following year.

Nests established increased from 276 in 1976 to 465 in 1978. An average of 1.84 eggs were laid/nest. Annual productivity decreased from 1.61 young/nest in 1976 to 1.29 young/nest in 1978 with an average for three years of 1.43 young/nest. Factors affecting productivity were food availability, lack of nest predation, and the close synchrony of the colony.

The primary foraging sites were Marsh Lake, Big Stone National Wildlife Refuge, Lac Qui Parle and Artichoke Lake. Foraging sites had some distinctive features and all were within 30 km of the nesting island. Pelicans forage alone, with other pelicans and with cormorants. Prey included bullheads, carp, minnows and crayfish.

The pelicans began departing in early September and all were gone by mid-October. Clear days with a northwest wind were preferred for migration. Wintering areas are along the Gulf of Mexico.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980

Alfred H. Grewe, Jr., Chairperson

INDUSTRIAL STUDIES

EMPLOYMENT OPPORTUNITIES FOR INDUSTRIAL EDUCATION GRADUATES AT ST. CLOUD STATE UNIVERSITY

Rodney T. Sietsema

PROBLEM: The researcher dealt with the concern for industrial education graduates and their opportunities for employment in education. The problem dealt with the number of positions available, additional licensing or certifications, the major emphases of the teaching position, the time periods, involving the listing for the position and the signing of the contract, information about the person hired for the position, information about the previous instructor and related information regarding the school size, city population and base salary in the district.

PROCEDURE: One hundred sixty-nine usable requests for industrial arts teachers were received at St. Cloud State University in the study area during the period from October 1, 1979 through September 30, 1980. One hundred forty-six of the schools returned one hundred fifty questionnaires mailed to them. The study area included the following states: Colorado, Illinois, Iowa, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, South Dakota, Wisconsin and Wyoming.

FINDINGS: Eighty-four of the responding schools were in the state of Minnesota. Wisconsin had the next highest participation with eighteen. Thirty-seven percent of the schools had an average graduating class size of two hundred fifty-one students or more. The rest of the responses were divided between smaller schools.

The base salaries of the responding schools ranged from \$9,700 to \$15,048, with the most responses, forty-five, between \$10,950 and \$11,200. The mean salary for the study group was \$11,289.54. The larger size schools tended to have slightly higher base salaries, as did some of the states, such as Illinois.

Most of the positions were listed between March and July and filled between May and August. Most of the positions were filled within seven weeks after the listing appeared. Fourteen of the positions were either unfilled or terminated at the time the questionnaires were returned.

Very few of the positions required additional certification or licensing. More often it was noted as being desired, but not necessary for employment. More of the additional requirements listed, however, came from the smaller graduating class size schools. These smaller schools also requested that the teacher hired for the position teach more different subjects and more grade levels than the larger size schools. Also more of the smaller schools were hiring highly experienced teachers than the larger schools.

SUMMARY: During the study period the St. Cloud State University Center for Career Planning and Placement received a total of three hundred thirty-six requests for industrial arts teachers. St. Cloud State University graduated sixteen persons qualified to teach industrial arts during the same time period. This, plus the information received in the study, would indicate that there is not a shortage of positions available to St. Cloud State University

graduates in industrial education.

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Gerald Nestel, Chairperson

COLLEGE OF SOCIAL SCIENCES

HISTORY

ANGLO-FRENCH DIPLOMATIC RELATIONS, 1558-1574

Galen J. Johnson

Diplomatic relations between England and France from 1558-1574 were continuous in a Europe where religious differences caused diplomatic contact to be broken. Queen Elizabeth maintained ambassadors with the Huguenots in France as well as with the Catholic monarchy. The possibility of a marriage between Queen Elizabeth and Charles IX, the Duke of Anjou, or the Duke of Alencon, was a main part of Anglo-French relations. Elizabeth used the issue to further her diplomatic plans. The recovery of Calais was one of the primary goals of Queen Elizabeth from 1558-1574. The diplomatic correspondence of the period contains hundreds of references to the possibility of recovering Calais from France. Religious conflict in France kept the country in a weakened state so that it was not a major threat to England's security. Elizabeth was recognized by France as the legitimate sovereign of England early in her reign; internal problems kept France from militarily challenging Elizabeth's England. Another of the constant problems dealt with by French and English diplomats was trade. Negotiations to gain the release of captured French and English shipping was carried on throughout the period. Diplomats from both countries worked to gain favorable trade conditions. Commercial clauses were presented in many of the treaties of the period.

Diplomatic relations between France and England went through several stages. First, France recognized Elizabeth's legitimacy and permanent embassies were re-established in both countries. Then conflict in Scotland threatened war between the two countries. After the Treaty of Edinburgh (1560), relations remained strained until the Peace of Troyes (1564) ended Elizabeth's overt intervention in the French Wars of Religion. Sir Thomas Smith worked after 1564 to complete a defensive treaty which linked the two countries in 1572. The Massacre of St. Bartholomew's Day nearly wrecked the Anglo-French alliance. Relations were re-established in 1574; the death of Charles IX ended an era in Anglo-French diplomatic relations.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980
Paul H. Vaughtner, Chairperson

SOCIAL SCIENCE

AN INVESTIGATION OF YOUTH INVOLVEMENT AT GENERAL PARTICIPATION FESTIVALS: A CROSS CULTURAL ANALYSIS

Barry C. Clough

PROBLEM: This investigation attempted (1) to find out the extent of youth participation at local festivals in selected communities of Minnesota, (2) to determine which activities of the festivals involved the greatest youth participation, (3) to put community festivals in a cross-cultural context and (4) to derive conclusions and make recommendations to those seeking additional input into how to manifest youth participation at a community festival.

PROCEDURE: The methodology for this study employed both secondary research and primary investigation field research. The secondary research was provided by a cross-cultural analysis of youth participation at general participation festivals available by a review of the literature. Primary data were collected by this investigator and other members of the Festival Behavior Study Program sponsored by St. Cloud State University and The Evelyn Payne Hatcher Museum of Anthropology under the direction of Dr. Hatcher.

A comparative approach to the study of festivals was available since thirteen different festivals were studied. A linear study was achieved since some of the same festivals were studied over as many as six years.

FINDINGS: The review of related literature provided a cross-cultural comparison of youth participation during festival events of the past and in present-day non-western and western cultures. Non-western cultures recognize the transition of youth to adulthood in more formal and certain ways than in western cultures. This led to a celebration thus involving youth directly in festival activity. In western cultures, such as the United States today, youth have not proportionately participated in all festival activities.

Youth, defined as thirteen to twenty years old, were well represented in proportion to the general population of the United States, very well represented or a majority of those present when an event of a festival was specifically for them, when the event was hosted or organized by youth, when the event was characterized by action, when youth were allowed to participate actively rather than just to observe the event, when the events were competitive, when the events were characterized by qualities of festiveness or adventure or, in summation, when their involvement was allowed.

SUMMARY AND RECOMMENDATIONS: Youth involvement at community festivals is helpful in order to transmit the festival events to future generations. Thus youth stand out as an important group festival organizers need to consider when hosting a festival. How this is accomplished largely depends on what type of events are offered during the festival. Thus organization and pre-festival planning are essential requirements to carry out this task. Full participation of every individual in a community festival is really not a goal of festival organizers, but a proportional number of people from all age groups should be the goal if a true community festival is desired. Youth involvement could be achieved if festival organizers included youth in the planning stage. Since school is in session long before most Minnesota festivals take place, this

would be the ideal setting for long term planning.

APPROVED BY RESEARCH COMMITTEE, AUGUST 1980

Robert Lavenda, Chairperson

SPECIAL STUDIES

A COMPARISON OF TWO METHODS OF WEIGHT REDUCTION

Debra A. Allyn

The purpose of this study was to determine the effectiveness of two methods of weight reduction in overweight college women. An effort was made to distinguish which method provided a more desirable form of weight loss. Each method was examined by body compositional measurements.

Fifty college women from St. Cloud State University volunteered for the study. Of these women, twenty were involved in each of the two experimental groups. Ten women participated in the comparison group. Only seven women in the diet group completed the study. Sixteen of the original twenty completed the diet and exercise (diet/exercise) program. Seven of the ten women in the comparison group returned for post-testing

The intent of the two experimental groups was to have each participant lose at least one pound per week by a negative caloric balance of 500 calories per day. The diet group was designed to achieve the negative caloric balance by reducing caloric intake only. On the other hand, it was intended for the diet/exercise group to accomplish the negative balance by a reduction of caloric intake and an increased caloric expenditure (each equal to 250 calories per day), for the total of 500 calories per day.

The mean body weight at the beginning of the investigation was 70.52, 74.10, and 72.44 kg for the diet, diet/exercise, and comparison groups, respectively. These groups showed decreases of 4.48, 4.43, and 1.25 kg. Percent body fat of the diet/exercise group decreased from 35.36 percent to 30.83 percent during the eight-week program. The diet group decreased from 33.49 percent body fat to 30.87 percent. The percent body fat of the comparison group increased slightly from 29.93 percent to 30.03 percent. The differences of the percent body fat were significant ($P < .01$) for both the experimental groups. The comparison group showed a significant difference ($P < .05$) for total body weight. No other variables measured showed a significant difference for the comparison group. The diet/exercise group experienced significant changes in each variable of underwater weighing except for lean body mass which remained unchanged.

The two methods of weight reduction appear to be of equal value when observing total body weight lost. Body composition changes caused by the diet/exercise method proved to be physiologically superior to the dieting alone program. Body fat loss by the subjects involved in the diet/exercise program was greater than the loss achieved by those participating in the dieting program. Additionally, the diet/exercise participants lost less lean tissue than did the members of the diet group. The diet/exercise program was more successful in maintaining the interest and involvement of the participants than

those who used dieting exclusively for weight loss.

APPROVED BY RESEARCH COMMITTEE, MAY 1982

John M. Kelly, Chairperson

A STUDY OF STATE AND TRAIT ANXIETY AND SMOKING BEHAVIOR OF COLLEGE STUDENTS

Carol Ann Radocha Belfiori

PROBLEM: The purpose of the study was to determine the relationship between cigarette smoking and levels of anxiety in students at St. Cloud State University (SCSU) both as general anxiety (trait anxiety) and after they are exposed to information on the health risks of cigarette smoking (immediate or state anxiety). The null hypotheses stated that there would be no significant differences between smokers and nonsmokers at SCSU in trait and state anxiety levels.

PROCEDURES: Two hundred and twenty-nine students at SCSU volunteered to participate in the study while they were enrolled in an introductory psychology course during winter quarter 1982. They were divided into seven smoking and nonsmoking categories based on their smoking history and behavior. Twenty-five students were excluded from the study because they smoked cigars, a pipe or marijuana but not cigarettes. Of the remaining 204 students, 127 were nonsmokers and 77 were smokers. The State-Trait Anxiety Inventory by Charles Spielberger was used to measure the two levels of anxiety. After the trait anxiety was measured, the subjects were exposed to information on the health risks of cigarette smoking and then their state anxiety was measured. The two anxiety scores were computed and the differences between smokers and nonsmokers were analyzed using the Analysis of Variance (F ratio) with a .05 level of significance.

FINDINGS: Smoking students at SCSU exhibited significantly higher trait and state anxiety than nonsmoking students. Both the null hypotheses were rejected. Although female students tended to be more anxious than male students the sex difference was significant in only one smoking category on each of the anxiety measures. Age and year in school did not influence the levels of anxiety by either measure. When the various categories of smoking behavior were compared, significant differences in anxiety levels were found. Students who were recent quitters (ex-smokers who had smoked at least one cigarette in the past month) had the highest trait anxiety followed by daily cigarette smokers. In state anxiety, students who smoked one-half package of cigarettes per day had the highest anxiety scores followed by students who smoked more than one-half package per day and then the recent quitters. Occasional or non-daily cigarette smokers had lower trait and state anxiety levels but not as low as former smokers and those who had never smoked.

CONCLUSIONS: Cigarette-smoking students at SCSU were found to be both more generally anxious (trait anxiety) and more immediately anxious (state anxiety) after being reminded of the health risks of cigarette smoking. Sex, age, or year in school differences had little or no effect on either anxiety level. Recent quitters were more anxious than non-daily smokers on both measures. No

cause and effect relationship between anxiety levels and cigarette smoking behavior can be assumed.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Theophanis Hortis, Chairperson

RURAL WOMEN: A TRAINING NEEDS ASSESSMENT

Cheryl Christine Kutsko

STATEMENT OF THE PROBLEM: The problem the author examined is whether or not training is needed by rural women and what specific kinds of training would best meet their needs. The author examined both the stated needs, made by the women themselves (degree of satisfaction in various areas; e.g., family, educational, economic) and inferred needs, made by the author of the women, based primarily on similarity of their responses and the central themes that emerged.

RESEARCH METHOD AND DESIGN: The women interviewed resided in three counties in Minnesota, 50 percent were farm and 50 percent were non-farm rural women. The interview format was semi-structured and in-depth. Thirty women were interviewed, between 40 and 50 per county. The interview consisted of 22 questions and took approximately one and one-half hours to conduct. Completed interviews of the women's stated needs were then analyzed to determine inferred needs. After completion of the analysis, two regional conferences were held to have rural women, other than those interviewed, prioritize the needs the women had identified in the interviews.

FINDINGS SUMMARY: Rural women generally have a high school education and tend to value more education for their children but see it as not feasible for themselves. Although rural women believe their economic situation to be satisfactory, they agree that more money would be helpful but they do not make the connection between working outside the home and having more money. Most of the women spoke of needing more time alone and felt lack of time to be the major constraint in their lives, however, they felt they had no control over that. Some of the women want more education or different jobs but made no attempt to seek change in their lives. Most importantly, rural women value family life and see their role as central to that system. They believe the family structure would collapse in their absence.

CONCLUSIONS: Most of these women feel they have no control over their own lives except in the area of the family. They live in the "realm of the possible" or that which can be accomplished, or they perceive as feasible. Their lives could possibly improve with more money, more outside interest, or more time for themselves but generally they believe that things are as they are and "nothing" as was stated frequently, can be done to change that, so they cope or deny or make do in order to not experience frustration.

APPROVED BY RESEARCH COMMITTEE, MAY 1981
Dennis Fields, Chairperson

A FEASIBILITY STUDY OF JAIL ALTERNATIVES FOR THE MINNESOTA
COUNTIES OF ISANTI, KANABEC AND PINE

Virginia K. Hanauer Lane

Local governments throughout the United States are facing serious problems regarding the administration of local correctional facilities. Antiquated and deteriorating buildings, increased prisoner populations, and court orders resulting from lawsuits filed by prisoners have forced local governments to make significant improvements in local jails or to close them and release the inmates.

The Minnesota Department of Corrections has promulgated rules for the operation of local jails in Minnesota. The inspection of local jails has resulted in determinations that many jails are not in compliance with the minimum standards established by the Department. In the majority of cases, non-compliance has been a direct result of inadequate physical facility characteristics. Department findings have resulted in condemnation or restricted use in numerous county jails in Minnesota.

The Minnesota counties of Isanti, Kanabec and Pine have been notified that their detention facilities do not meet the minimum requirements established for the operation of local jails. The facilities in Isanti and Pine counties have been classified as "potentially condemnable" and each has been restricted to limited use. The Kanabec County facility cannot detain prisoners for more than seventy-two hours and has an approved capacity of only four beds. Each county has been required to formulate plans to bring their local jails into compliance with minimum standards established by the Department.

The Minnesota Regional Jail Act allows contiguous counties to participate in the construction and operation of multi-county jails in areas where the data indicate that such an approach would be practical. This thesis research provides a detailed analysis of detention needs in Isanti, Kanabec and Pine counties in order to (1) determine the most appropriate jailing alternatives for each county, and (2) compare the relative cost-effectiveness of single- and multi-county approaches to resolving existing detention problems.

Demographic data, criminal justice system data, and jail usage and sentencing patterns in the three counties indicate that detention needs will intensify over the next twenty years. In response to this assessment, several single- and multi-county jail options were developed for each county under study. Cost projections for each option were calculated through the year 2000 and a comparative analysis of the cost-effectiveness of each option was conducted.

Research findings resulted in the conclusion that the most cost-effective and long-range solution to the detention problems in the three counties is to close the existing facilities and construct and operate a centrally located, three-county jail.

APPROVED BY RESEARCH COMMITTEE, MAY 1982
Robert Prout, Chairperson

A LABORATORY ASSESSMENT SPECIFIC TO NORDIC SKIING

Jay O. Millerhagen

The purpose of this investigation was to study the subjects' response to a laboratory assessment that was specifically designed to test cross-country skiers. This included developing a treadmill protocol which tested the cardiovascular and musculoskeletal systems in a manner that closely simulated Nordic skiing. Nine citizen racers from the St. Cloud area volunteered to participate in the study. Four subjects were placed into a recreational group and five subjects were placed into a competitive group according to finishing times in several area races. Descriptive and body composition information was obtained. Each subject underwent six maximal work capacity evaluations. An arm, leg, and combined arm and leg exercise plus duplicates of each were performed from May to July of 1980. The arm test required the subjects to stand in a predesignated position and pull on wall pulley weights in a diagonal polling motion at a rate of two pulls per second. Every two minutes more weight (1.5 kg) was added to each arm until exhaustion. During the leg test the subjects walked at a treadmill speed of 121 meters·min⁻¹ (4.5 mph) and every two minutes the treadmill incline was increased by 2.5 percent until exhaustion. The treadmill speed and work increments during the combined test were identical to the leg test, but the subjects pulled on the wall pulley weights in a diagonal polling motion. The skiers subjectively chose increased arm resistance with the progression of the combined test.

The metabolic requirements and respiratory anaerobic thresholds were determined from each test. Standard procedures were used for gas analysis on serial samples of expired air each minute. Respiratory anaerobic thresholds (AT) were indicated by a nonlinear increase in pulmonary ventilation and ventilatory equivalent. Hypothesis 1 was stated to compare the recreational group to the competitive group to identify variables which may have contributed to better performance. Hypothesis 2 was stated to compare the metabolic demands of the work capacity tests.

In summary, hypothesis 1 was accepted for this group of skiers. There were no significant differences in the descriptive variables between the recreational and competitive skiers. The mean body fat percentage for the recreational skiers was considerably higher than for the competitive skiers. There were no significant differences in the metabolic measures between the recreational and competitive skiers, except for the higher relative max V_{O_2} during the combined test. Hypothesis 2 was conditional as follows. All mean values for the legs test and combined test were significantly higher than mean values for the arm test, except for the respiratory exchange ration of the combined test.

The mean duration of the arm test during maximal effort was 61.7 percent (12.4 minutes) and the leg test was 81.6 percent (16.4 minutes) of the average length of time for the combined test (20.1 minutes). The mean work rate for the arm test at maximal effort was 33.3 percent (124.8 watts) and the leg test was 80.5 percent (302.11 watts) of the mean work rate for the combined test. The combined maximal work rate was 24.2 percent greater than the maximal work rate for the leg test. The maximum oxygen uptake was not significantly different when comparing the leg test to the combined test, but V_{O_2} at submaximal work levels was significantly less during the combined test. The skiers were significantly more efficient and perceived less effort during the combined test.

The onset of AT occurred at 67.6, 73.1, and 76.0 percent of maximum V_{O_2}

for the arm, leg, and combined tests, respectively. There were no significant differences at AT in terms of V_{O_2} or percent of maximum V_{O_2} when comparing the leg test and combined test, but the skiers performed at higher work rates for longer periods of time before AT occurred during the combined test. The skiers assumed 18 to 25 percent of the total work load with the arms during the combined test.

The application of these results to cross-country skiing supports the need for greater upper body involvement when skiing. Even though a skier may be limited by his aerobic capacity, he may still show improvement in ski performance if effective use is made of well developed muscles of the shoulder girdle, upper back, and arms. Training regimens and competitive strategies should include intensive upper body endurance and strength training.

APPROVED BY RESEARCH COMMITTEE, MARCH 1981
John Kelly, Chairperson

ROLE SATISFACTION OF THE ANOKA-HENNEPIN PRACTICAL NURSING PROGRAM GRADUATES

Bette J. Struck

STATEMENT OF THE PROBLEM: To determine whether or not the graduates of the Anoka-Hennepin Practical Nursing Program are satisfied with their role as an LPN and to determine if there is any significant relationship between role satisfaction and the following variables: a) age; b) number of years since graduation; c) state board examination score; d) marital status/family responsibility; e) present place and type of employment; f) full or part time employment; g) length of time employed as an LPN; h) present licensure status; i) membership in a nursing organization; j) participation in a nursing organization; k) participation in continuing education; l) salary.

PERTINENT QUESTIONS THAT WERE EXPLORED: a) What was the percentage of graduate satisfied/dissatisfied with their role as an LPN? b) What were the reasons given for their satisfaction/dissatisfaction? c) What was the percentage of graduates desiring to be RN's? d) To what extent had the graduates pursued RN education? e) What was the percentage of graduates who had become RN's? f) What was the percentage of graduates who were satisfied/dissatisfied with their role as an RN? g) What were the reasons given for their satisfaction/dissatisfaction?

METHODOLOGY: A random sample, 302 of the 911 graduates of the Anoka-Hennepin Practical Nursing Program, who passed the state board examination for licensed practical nurses (1968-1978) was surveyed. The study was based on the 207 graduates who returned questionnaires. The questionnaires were tabulated and sent to the computer services at St. Cloud State University for calculation using the chi-square statistical analysis.

RESULTS OF THE STUDY: There was no significant relationship between any of the twelve selected variables and role satisfaction of the graduates of the Anoka-Hennepin Practical Nursing Program. Although the majority of the graduates were satisfied with their role as an LPN, a significant number also wanted to

be RN's. The significance of the study appeared in the reasons the graduates gave for being satisfied/dissatisfied with their role as an LPN and their reasons for wanting to be RN's. The frustration that was expressed in their suggestions for curriculum changes pointed out the need for further study in clarifying and delineating the role of the LPN.

APPROVED BY RESEARCH COMMITTEE, MARCH 1981
Frank Osendorf, Chairperson