

Cooperative Research Projects

Fiscal 1957

**Part I RESEARCH ON THE EDUCATION OF
THE MENTALLY RETARDED**

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**Part II RESEARCH ON OTHER ASPECTS OF
EDUCATION**

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**U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE**

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FOREWORD

PUBLIC LAW 531, authorizing the Office of Education to "enter into contracts or jointly financed cooperative arrangements with universities and colleges and State educational agencies for the conduct of research, surveys, and demonstrations in the field of education," may rightly be regarded as an educational landmark. While education in the United States is, of course, a State and local function, there have been several occasions (dating back even before the formation of the Federal Union) when the national government has provided stimulation or support for education. We may hope that Public Law 531 will lead to research as significant and rewarding as the research conducted in the agricultural experiment stations of the several States or the research in colleges and universities supported by the National Institutes of Health.

This publication presents a brief description of the Cooperative Research Program of the Office of Education and of the research projects initiated during the fiscal year 1957. More extensive information about the program, especially with regard to the procedure in making application for funds, is provided in a separate brochure available on request.

The director of each project initiated under Public Law 531 during fiscal 1957 was asked either to prepare a brief description of his project, or to review a description prepared in the Office of Education. These descriptions, as approved by the project directors, are grouped here according to the problems with which they deal. At the end of each description are given the name of the director or chief investigator and the name of the institution or agency with which the contract for research was made. Also included are the serial number by which the project is identified, the duration of the project, and the approximate beginning and ending dates.

These descriptions should be regarded as statements of work in process rather than as statements of completed accomplishment. Further information about any specific project should be sought from the director or chief investigator of the project, rather than from the Office of Education, and the Office requests that no information from these descriptions be used for publication without the permission of the director.

HERBERT S. CONRAD,
Acting Assistant Commissioner for Research.

INTRODUCTION

DESCRIPTION OF THE PROGRAM

Origin

THE OFFICE OF EDUCATION provides financial support for research in education through its Cooperative Research Program. The purpose of this program is to develop new knowledge about major problems in education and to test new applications of existing knowledge. The program is operated under the terms of Public Law 531, which authorizes the Commissioner of Education to "enter into contracts or jointly financed cooperative arrangements with universities and colleges and State educational agencies for the conduct of research, surveys, and demonstrations in the field of education." For convenience of reference, the law is reproduced verbatim below.

PUBLIC LAW 531, CHAPTER 576 (83d CONGRESS, 2d SESS.)

AN ACT

To Authorize cooperative research in education.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) in order to enable the Office of Education more effectively to accomplish the purposes and to perform the duties for which it was originally established, the Commissioner of Education is authorized to enter into contracts or jointly financed cooperative arrangements with universities and colleges and State educational agencies for the conduct of research, surveys, and demonstrations in the field of education.

(b) No contract or jointly financed cooperative arrangement shall be entered into under this section until the Commissioner of Education has obtained the advice and recommendations of educational research specialists who are competent to evaluate the proposals as to the soundness of their design, the possibilities of securing productive results, the adequacy of resources to conduct the proposed research, surveys, or demonstrations, and their relationship to other similar educational research already completed or in process.

(c) The Commissioner of Education shall transmit to the Congress annually a report concerning the research, surveys, and demonstrations initiated under this Act, the recommendations made by research specialists pursuant to subsection (b), and any action taken with respect to such recommendations.

Sec. 2. There are hereby authorized to be appropriated annually to the Office of Education, Department of Health, Education, and Welfare, such sums as the Congress determines to be necessary to carry out the purposes of this Act.

Approved July 28, 1954.

Although Public Law 531 was passed in June 1954, funds with which to put the law in operation were not appropriated till June 1956. In March 1956 the Office announced its preliminary plans for the Cooperative Research Program, subject to appropriation of funds by Congress. As a first step in developing the program for fiscal 1957, educational specialists in the Office were asked to identify what they considered to be the most important problems in education which could be attacked through research. Next the administrative staff selected those problems which seemed most important in terms of national concern. Then an ad hoc advisory committee—five persons outstanding in research in education—were asked to review and make recommendations concerning the areas which should receive special attention. By this process of consultation and deliberation, a list of 10 preferred problem areas was developed; this list is given below.

A. CONSERVATION AND DEVELOPMENT OF HUMAN RESOURCES

1. Education of the Mentally Retarded.
2. Development of Special Abilities of Students. (Identification and development of unusual talent.)
3. Educational Aspects of Juvenile Delinquency.
4. Retention and Continuation of Students. (Those who drop out of school before they have reached their maximum level of development, capable students who never enter college or who leave before finishing.)

B. STAFFING AND HOUSING THE NATION'S SCHOOLS

5. Staffing the Nation's Schools and Colleges. (Getting and keeping qualified teachers: Career motivation in the teaching field.)
6. Planning and Costs of School Construction. (Restricted to "College Buildings—Present Status and Future Needs" during fiscal year 1957.)

C. EDUCATIONAL IMPLICATIONS OF EXPANDING TECHNOLOGY AND ECONOMY

7. Implications of Expanding Technology for Vocational Education.
8. Educational Problems Resulting From Population Mobility.
9. Educational Needs of Low-Income, Rural Families.
10. Educational Uses of Television.

While these 10 areas were regarded as of major interest, it was clear that the list was not all inclusive; therefore, proposals for research on other aspects of education were not excluded from consideration.

Status at End of First Year

The Cooperative Research Program began operation July 1956, after a congressional appropriation of \$1,020,190 was made for the fiscal year 1957. During this first year, 72 projects were initiated in 30 different colleges and universities and in 6 State departments of education. (An additional 17 institutions of higher education are

cooperating in one project being directed by the Division of Higher Education of the Office of Education.) These institutions and agencies represent 27 different States, the District of Columbia, and the Territory of Alaska.

Since two-thirds of the original appropriation was designated for research on education of the mentally retarded, the larger proportion of projects initiated during fiscal 1957 are in this area. The remaining projects are concerned with a variety of other problems in education, most of them falling into the major problem areas of special interest to the Office when the program was set up.

Obviously, no lasting generalizations may be made on the basis of data from only the first year's projects; yet the following statistical facts from this year's operations may be of interest: (1) The projects initiated during the first year range in duration from 6 months to 5 years; the average for the projects in mental retardation is 2 years, while that for the projects in other areas is somewhat less than 2 years. (2) The annual cost per project, in Federal funds, for studies in mental retardation, ranges from about \$7,000 to over \$175,000, with an average of about \$30,000; the range for projects in other areas is from \$1,000 to \$95,000, with an average of about \$20,000. (3) The total Federal cost per project (for the full life of the project), for studies in mental retardation, ranges from about \$5,000 to about \$600,000, with an average of about \$70,000; the range for projects in other areas is from \$2,000 to about \$260,000, with an average of about \$35,000.

In entering its second year of operation, the Office replaced its original four-page printed form for submitting proposals with a more complete set of instructions. This change was made in order to provide the Office of Education Research Advisory Committee with more adequate information on which to base their recommendations for approval or disapproval.

Some changes have also been made in the list of preferred problem areas. Two new areas are included; viz., "Education of adults—with special emphasis on aging"; and "Organization and administration of schools and colleges." In addition, projects are especially invited in the fields of science and mathematics. Two original areas have been dropped; viz., "Educational needs of low-income, rural families"; and "Educational uses of television." The latter problem area is already well financed by sources outside the Office of Education; the former is partly included in the area dealing with the implications of our expanding technology and economy for vocational education.

At the end of its first year, several of the projects initiated under the Cooperative Research Program were nearing completion. The Office is looking forward to receiving final reports of the research it has supported, and to disseminating the findings. These findings should permit a more discriminating evaluation of various important

aspects of current practices and provide an improved basis for the building of new and better programs in education.

Procedure

Under the present procedure the Office receives proposals for specific research projects from institutions of higher education and from State departments of education. After proper official record of the proposal has been made, and the proposal scrutinized for fulfillment of basic requirements (as set forth in the instructions for submission of applications), the proposal is routed to at least two Office of Education specialists for comments. Typically, one specialist's comments center on subject matter aspects of the proposal; the other's on technical statistical and methodological aspects. Next, the proposal, accompanied by the comments, is submitted to the members of the Office of Education Research Advisory Committee for review and evaluation. This Committee, appointed by the Commissioner of Education, was set up in accordance with the general terms of Public Law 531. The first year's membership of the Committee consisted of the following:

RUTH E. ECKERT, professor of higher education, University of Minnesota.

FRANK HUBBARD, assistant executive secretary for information services, National Education Association.

ERICK L. LINDMAN, professor of school administration, George Peabody College for Teachers.

J. CLAYCE MORRISON, director of the Puerto Rican Study, New York City.

WILLARD C. OLSON, dean of the school of education, University of Michigan (cochairman of the committee).

H. H. REMMERS, director of the division of educational reference, Purdue University.

RALPH W. TYLER, director of the Center for the Advanced Study of Behavioral Sciences, Stanford, Calif.

O. J. VAN SLYKE, associate director of the National Institutes of Health, Public Health Service (Leonard J. Duhl served as alternate).

DAEL WOLFLE, executive officer of the American Association for the Advancement of Science.

The ex officio chairman of the Committee (without vote) is the Assistant Commissioner for Research; acting in this capacity was, first, John R. Rackley, and later, Herbert S. Conrad.

The Research Advisory Committee evaluates proposals in the light of criteria which deal with the significance of the problem for education, the soundness of the research design, the personnel and facilities available for the research, and the economic efficiency or relationship of proposed expenditure to procedures and probable outcomes.

After a proposal has been recommended favorably to the Commissioner of Education, the Research Branch, with approval of the Commissioner, negotiates directly with the institution or agency concerning terms of support for the project, with due regard to the

Committee's recommendations and the funds available. The Commissioner gives final approval in the form of a contract between the Office and the institution or agency. Although a substantial amount of the necessary financial support is provided by the Office, the cooperating institution or agency is also expected to contribute to the total cost of each project, usually by providing professional services and facilities. During the first year of operation, this contribution is estimated to average approximately a third of the total cost of most research projects.

H. S. C.

PART I

PART I

**Research on the Education
of the Mentally Retarded**

Research on The Education of the Mentally Retarded

IN 1957, mentally retarded children became a principal beneficiary of the provisions of Public Law 531. While this legislation was designed to serve education generally, approximately two-thirds of the first year's congressional appropriation of \$1,020,190 was designated for research on education of the mentally retarded. The Public Health Service, the Children's Bureau, Office of Vocational Rehabilitation, Office of Education, are cooperating in the development of a balanced approach to the total problem of mental retardation.

Through the years a number of colleges and universities have been doing some experimental studies in mental retardation. However, only a limited number of these have been specifically concerned with the educational phase of the whole problem. The progress of this type of study has often been hampered by lack of funds.

Many State and local school systems have also been active in developing programs for the retarded. They would probably be the first to say that this has been done to a large extent, without benefit of adequate scientific evaluations and experimental studies.

The need for research in this field was evidenced by the spontaneous and immediate response to the opportunity for securing funds under the Cooperative Research Program of the Office of Education. Throughout the year colleges and universities and State educational agencies continued to present proposals for consideration. By the close of the fiscal year, contracts had been drawn for 42 studies. Thirty-six of these are being conducted by 17 colleges and universities and 6 by State education agencies (including 2 by city school systems, through State departments of education). They are distributed over 19 States, from coast to coast and from the northernmost States to the Gulf of Mexico.

The coverage of crucial problems in the education of the mentally retarded is extensive in a program less than 1 year old. In general, projects include studies about: "Trainable" and "educable" children; age groups ranging from preschool to adolescence; day school and residential programs; urban and rural population.

There has been nationwide interest in the nature of these research projects both by the public generally and by other investigators. Recognizing that final reports on individual projects will not be

available for some time, a collection was made of summary statements of the projects. It is hoped these will provide an overview of the problems under investigation. The abstracts of individual projects as formulated by the principal investigators themselves, appear in the following pages of part I.

Language Achievements of Mentally Retarded Children

This study proposes to analyze the language abilities of children enrolled in special classes for the mentally retarded in the areas of reading, speaking, listening, and writing. Variations in achievement in each of these abilities, specific strengths and weaknesses characteristic of different levels of achievement, and mental ability and relationships among the various abilities will be studied. The study proposes to: (1) Chart the frequencies of specific difficulties in the intake and output of ideas through language; (2) discover the "open channels" for current education of these children; (3) identify the weaknesses which respond rapidly to remedial instruction; and (4) outline plans for educational approach and remedial language instruction. A comprehensive battery of standard and informal tests will be used. Relationships will be studied through paired comparisons and correlations.

DONALD D. DURRELL, Professor of Education, Boston University, Boston, Mass.

Project No. 014.
Duration: 9 months.
October 1956 to July 1957.

Refinement of a Nonverbal Group Measure of Delinquency Prone-ness That Can Be Used With Nonreaders, Slow Learners, and Mentally Retarded Children

The study aims to validate a nonverbal group measure (KD prone-ness scale) of delinquency proneness which can be used with all children including nonreaders, slow learners, and the mentally retarded. Subjects are required to indicate which pictures they like the most and which they like the least in a series of 62 sets. Before-and-after data will be gathered on a junior high school population, grades 7 to 9 (N 2000) in one city public school system and a special class sample from two communities (N 200). Behavioral adjustment data will be gathered over a 30-month period by fieldworkers. Relationships between the prediction measure and adjustment criteria will be investigated. The nonverbal scale is keyed on the basis of an item analysis between nondelinquents in public schools and institutionalized delinquents in several State institutions. In addition relationships between the KD verbal scale, KD check list, and the nonverbal scale will be investigated.

WILLIAM C. KVARACEUS, Professor of Education, Boston University, Boston, Mass.

Project No. 015.
Duration: 2 years 11 months.
October 1956 to September 1959.

A Study of the Structure of Attitudes of Parents of Mentally Retarded Children and a Study of Change in Attitude Structure

The purpose of this study is to assess attitudes of parents, in the middle income socioeconomic level, who have educable mentally retarded children, in order to determine personality variables of these parents and the effectiveness of altering attitudes through time sequences of counseling. Four groups (15 fathers and 15 mothers each) will be compared as follows: One group will serve as a control group; one group will receive intensive counseling for 1 week; one group will have counseling once a month for 6 months; one group will receive counseling twice a month for a 6-month period. Attitudes will be measured by attitude tests, interviews, and personality tests. Tests will be administered before and after in order to determine changes in attitude.

WILLIAM M. CRUICKSHANK, Professor of Education and Psychology and Director of Education for Exceptional Children, Syracuse University, Syracuse, N. Y.

Project No. 018.
Duration: 3 years 2 months.
October 1956 to December 1959.

Quantitative and Qualitative Analyses of Endogenous and Exogenous Children in Some Reading Processes

In this study it is proposed to investigate some of the qualitative and quantitative differences between endogenous and exogenous children in certain reading processes. The Riggs and Rain classification system (with some modifications) will be used to select 30 endogenous children and 30 exogenous children in special classes in school systems. The information for the diagnosis will be drawn from case histories and medical data. The exogenous group will be further restricted to children who show perceptual psychopathology as determined by a recently devised histoscopic test which has been considered satisfactory in work with brain injured children. The endogenous and exogenous groups will be matched on chronological age, mental age, educational background and sex. Differences between the two groups will be determined by an elaborate battery of tests, with especial emphasis on diagnostic reading instruments. An analysis of variance will be used to determine differences.

R. J. CAPORIANCO, Director of Research in Special Education and Rehabilitation, Syracuse University, Syracuse, N. Y.

Project No. 019.
Duration: 1 year.
January 1957 to January 1958.

A Comparative Investigation of Learning and Adjustment of Trainable Children in Public School Facilities, Local Segregated Facilities, and State Residential Centers

The purpose of this study is to investigate the feasibility of including the trainable child (I. Q. 25 to 50 inclusive, and below M. A. '8) in the public school program. Approximately 27 children in this category will be divided into three equal groups and placed in a 2-year controlled-classroom program at each of the 3 types of facilities—a typical city elementary school, a locally sponsored center for trainable children, and the State institution for retarded children. An attempt will be made to evaluate which type of facility offers maximum growth and progress to the pupils.

JOHN R. PECK, Assistant Professor of Educational Psychology, University of Texas, Austin, Texas.

Project No. 020.

Duration: 2 years 9 months.

January 1957 to September 1959.

An Investigation of Factors for the Educational Placement of Mentally Retarded Children

The purpose of this study is to discover and assess the most significant factors involved in the educational placement of mentally retarded children and to develop and test more adequate criteria for use of educators in making the most adequate school placements. Estimates indicate that approximately 20 percent of educable retarded children (50 to 75 I. Q.) are now enrolled in special classes in public schools or in public and private institutions. Since programs for these children are developing rapidly, this study will attempt to assess significant factors involved in learning and adjustment of retarded children in special classes contrasted with those remaining in regular classrooms. Two hundred children selected at random will be studied. One hundred will be enrolled in special classes and a control group of 100 placed in regular classrooms throughout the State of Ohio. Each group will be evaluated with instruments testing intellectual capacity, school achievement, social acceptability, and adjustment to their teachers and peer groups.

VIOLA CASSIDY, Staff Member, Bureau of Special and Adult Education and Professor of Education, Ohio State University, Columbus, Ohio.

Project No. 043.

Duration: 2 years.

January 1957 to December 1958.

The Education of Educable Mentally Retarded Children in Sparsely Populated Rural Areas

In areas where population is not large enough to make possible the organization of day school special classes, the problems of educational planning for the educable mentally retarded child remain relatively

unsolved. Through this study, Kansas hopes to be able to find improved ways of serving retarded children in sparsely populated areas. This 3-year study is to be divided into three phases: (1) The identification and selection of approximately 50 educable mentally retarded children enrolled in regular classrooms as subjects for the experimental and control groups—these children are to be selected from 13 sparsely populated counties in western Kansas—; (2) development of an educational program which provides for an itinerant consultant trained in the area of mental retardation who can counsel parents and plan with classroom teachers and local and State agencies to provide an individualized program for each child in the experimental group; and (3) evaluation of the program through a comparative study of the social development and academic achievement of subjects in both groups.

MARGUERITE THORSELL, Supervisor,
Special Education, Kansas State
Department of Public Instruction,
Topeka, Kans.

Project No. 035.
Duration: 2 years 8 months.
January 1957 to September 1959.

An Investigation of Discrimination Learning Ability in Mongoloid and Normal Children of Comparable Mental Age

The purpose of this project is to investigate discrimination learning processes in trainable mongoloid children as compared with normal preschool children. Four or five individual studies are planned. The first experiment is concerned with the ability of the two groups to make a rhythmic discrimination. The subjects are asked to distinguish between patterns produced by metronomes beating at two different speeds. In addition, half the subjects in each group are being required to duplicate the patterns, so that the effects of the resulting kinesthetic cues may be studied. A second experiment will involve the role of "attention sets" in the learning of a simple button pressing task. The remaining studies will be concerned with similar learning problems, with particular attention being paid to the role of "discrimination sets" and verbal mediation processes.

GORDON N. CANTOR, Assistant Professor,
Division of Human Development and Guidance,
George Peabody College for Teachers,
Nashville, Tenn.

Project No. 076.
Duration: 1 year.
January 1957 to December 1957.

An Investigation of the Relationships Between Articulatory Development and Development of Phonetic Discrimination and Word Synthesis Abilities in Young Mentally Retarded and Normal Children

This project is designed to investigate the relationships of phonetic discrimination and phonetic synthesis ability to the development of

articulatory skills between mental ages 4 and 7. There is evidence that both of these and perceptual abilities are related to articulatory development at later age levels. However, we have no information in articulatory deficient children concerning the extent of such relationships during the period of articulatory development in either normal or mentally retarded children. It may be possible to develop limited predictive equations for articulatory development as a function of phonetic discrimination, phonetic synthesis, and mental age. This predictive possibility seems to be especially valuable in determining the need for remedial procedures with children who appear to be retarded in articulatory ability at early age levels. The study will involve monthly testing of articulation, phonetic discrimination, and phonetic synthesis ability over a period of 14 to 18 months. Subjects will consist of 2 groups, each with mental ages between 4 and 7 years. The first group will involve 40 to 60 mentally retarded children (I. Q. 50 to 75) while the second will include an equal number of children of normal intelligence (I. Q. 90 to 110).

C. V. MANGE, Assistant Professor of Project No. 078.
Audiology and Speech Pathology, Duration: 2 years 2 months.
Syracuse University, Syracuse, N. Y. December 1956 to February 1959.

An Investigation of the Reasoning Methods and Reasoning Ability in Mentally Retarded Children

The objectives of this study are: To explore and describe reasoning in mentally retarded children, to compare their methods with those utilized by normal children of approximately the same mental age, to explore the influence of levels of abstractness on reasoning ability in the mentally retarded and subsequently to compare these results with those obtained on normal children of similar mental age levels, and to determine the differences in reasoning abilities between male and female mental retardates. A group of 50 educable mentally handicapped subjects ranging in mental age from 8 to 11 years will be selected from the population of the Syracuse State School. Children with gross physical or emotional handicaps will be omitted from the study. A comparable group of mentally normal children with approximately the same mental age levels will be selected from the public school population. Experimental and control groups will be administered a series of three reasoning tests consisting of (1) The Dearborn Form Board test, (2) a recently devised test utilizing cut masonite squares, rectangles and triangles which are to be assembled into 5 specific squares measuring 5 by 5 inches, (3) a recently devised test (after Vigotski) utilizing classificatory systems such as form, color, size, etc., for the measurement of generalization ability. Additional data will be collected by the determination of the types

of problem solving techniques utilized by the subjects (right or wrong). Data will be evaluated by an analysis of variance technique utilizing the following variables: Male and female, first, second, and third test results. Qualitative analysis will be made in terms of the methodologies used by the subjects in reasoning test.

Dr. R. J. CAPOBIANCO, Director of Research in Special Education and Rehabilitation, Syracuse University, Syracuse, N. Y.

Project No. 081.
Duration: 1 year.
December 1956 to December 1957.

A Comparative Study of Some Characteristics in Better and Poorer Learners Among Children With Retarded Mental Development

The purpose of this project is to establish patterns of development of mental behavior among children with retarded mental development. The study purported to discover, if possible, behavior characteristics among the achievers and underachievers among mentally retarded children which will differentiate between them for predictive purposes in the development of curricula. This information would also be valuable in diagnoses and prognoses. The scope of the project includes a sample of mentally retarded children possessing similar I. Q.'s. The age range will include children from 8 to 16 years. Achievers would be defined as those children performing at a measured intellectual level. Underachievers would be those children performing at a level of 1 year or more below their indicated mental age. A battery of tests including Achievement, Stanford-Binet, Draw-A-Man, International Liter, Marble Board, Rorschach will be administered to these children as well as test of visual recognition, test of auditory recognition, memory span and recall, articulation profile, and Vineland Social Maturity Scale. The analysis of the results should provide valuable information leading to the modification of curriculum.

L. M. DiCARLO, Professor of Audiology and Speech Pathology, Syracuse University, Syracuse, N. Y.

Project No. 062.
Duration: 1 year.
December 1956 to December 1957.

Specialized Educational Methodology With Hyperactive Mentally Retarded Children: A Pilot Study and Demonstration

This is an investigation of the effectiveness and value of a non-stimulating classroom environment, especially prepared materials and highly structured teaching methods upon learning problems and school adjustment of mentally retarded emotionally disturbed children, with or without clinically diagnosed brain injury. Children whose emotional difficulties are characterized by mental retardation and hyperactive aggressive behavior and children with mental re-

tardation and known or suspected brain injury between the ages of 7 and 10 to 11 years will be studied. A thorough diagnostic workup of each child will be made. A control group of endogenous children and hyperactive children without neurological indications of brain injury, taught by conventional methods, will be used. The two experimental groups will be in an educational situation designed in general along the lines described by Strauss and Lethtinen. Experimental group 1 will include children with conclusive evidence of brain injury and mental retardation and children with mental retardation and hyperactive aggressive behavior without evidence of brain damage; group 2 will include children whose case histories and behavior are typical of the brain injured, but without neurological indications of brain injury, and children with mental retardation and hyperactive aggressive behavior without neurological indications of brain damage.

WILLIAM M. CRUICKSHANK, Professor of Education and Psychology and Director of Education for Exceptional Children, Syracuse University, Syracuse, N. Y.

Project No. 090.

Duration: 2 years 1 month.

December 1956 to December 1958.

A Comparative Study of Some Learning Characteristics in Mentally Retarded and Normal Children of the Same Mental Age: I. Learning, Recognition, Recall, and Savings; II. Proactive and Retroactive Inhibition; III. Generalization; IV. Reasoning

These are a series of comparative studies on some learning characteristics in mentally retarded and normal children of equivalent mental age levels. While intelligence tests primarily indicate quantitative differences between the intelligence levels of children, there are in the literature a few indications that there may be some qualitative differences as well. The differences that have been found, however, are in terms of things learned rather than in terms of the actual learning process. The studies being presently conducted are designed to obtain information concerning basic learning characteristics of retarded children using, insofar as possible, materials with which they have little or no previous familiarity and tasks which would not have been learned either by the retarded child or the normal child in regular school or community situations.

I. Learning, Recognition, Recall, and Savings. The specific objective of this study is to determine whether or not recognition, and savings characteristics of the mentally retarded differ from normal children of the same mental age and what the nature of these differences may be. Thus, a qualitative as well as a quantitative knowledge of this aspect of their intelligence would be made available for program and instructional planning.

II. *Proactive and Retroactive Inhibition.* The specific objective of this study is to determine the differences in proactive and retroactive inhibition of mentally retarded and normal children of the same mental age.

III. *Generalization.* The specific objective of this study is to determine the differences in generalization in mentally retarded and normal children of the same mental age.

IV. *Reasoning.* The specific objective of this study is to determine whether or not there are any differences in the reasoning characteristics of the mentally retarded and normal children of the same mental age.

G. O. JOHNSON, Associate Professor;
and R. J. CAPOBLANCO, Director of
Research in Special Education and
Rehabilitation, Syracuse University,
Syracuse, N. Y.

Project No. 091.

Duration: 1 year 6 months.

December 1958 to May 1958.

Social Behavior of Mentally Retarded Children in Public School and Institutional Environments

The objectives of this study are: (1) To establish a gradient of social participation in mentally retarded children of both sexes representing public school and institution environments, (2) to compare the social participation of trainable and educable mentally retarded children and subsequently to compare both groups to norms established for children of average intelligence, and (3) to relate degrees of social participation with the educational environments of educable and trainable mentally retarded children. Four groups of mentally retarded children (120 subjects) will be selected from public school and institutional classes. Two groups (trainable and educable) will represent public school classes and two groups will be chosen from institution classes. Time sampling observational techniques (1-minute periods, dispersed throughout free play sessions of the schoolday) will be applied to all groups. Observational ratings will conform to the following established categories of social participation: (1) Unoccupied, (2) solitary, (3) onlooker, (4) parallel, (5) associative, and (6) cooperative behavior. These categories represent a continuum of activity from lowest to highest levels indicative of the degree of social participation. Trained observers will rate the behavior of the subjects. All groups will be again rated at the end of the school year. Data for each individual and subgroup will be summed up and compared inter- and intra-group. An analysis of variance or covariance (if adjusted means are necessary) will be applied to the following variables: Trainable, educable; institution,

public school; and male, female. An analysis will also be made of the change in ratings for all groups from initial to final scores.

R. J. CAPOBIANCO, Director of Research
in Special Education and Rehabil-
itation, Syracuse University, Syra-
cuse, N. Y.

Project No. 092.
Duration: 1 year.
December 1956 to December 1957.

The Effectiveness of Special Day Class Training Programs for Severely (Trainable) Mentally Retarded Children

This project was designed as a long-term controlled study of the effectiveness of special classes for "trainable" subjects. Two hypotheses are under investigation: Day class training will produce desirable changes in the behavior of the children themselves, over and above those which result when the child remains at home and has no training in a school setting; school placement of such children will produce desirable changes in the home adjustment of the families involved. Phase 1 of this study will extend over the period January 1957 to June 1958. During this time a picture vocabulary scale will be developed to measure changes in this aspect of the development of "trainable" children. Then the experimental design of the study will be perfected, subjects identified, and a pilot study made centering on these two hypotheses. The proposed phase 2 of the study will see the actual carrying out of the experimental design.

LLOYD M. DUNN, Associate Professor
of Education and Coordinator of
Special Education, George Peabody
College for Teachers, Nashville,
Tenn.

Project No. 103.
Duration: 1 year 6 months.
January 1957 to June 1958.

Study of the Effect of Special Day Training Classes for the Severely Retarded

This project will be confined to severely mentally retarded children between the ages of 8 and 15 with intelligence quotients ranging from 25 through 50. The experimental sample will include children enrolled in public school classes for severely retarded and similar children who are attending an educational program within Sonoma State Hospital, Eldridge, Calif. A comparable control sample has been selected from communities which have no such programs and which do not anticipate the development of such programs during the experimental period of the project.

Families of all children in the school and nonschool groups who remain in the community will be studied. Where it is feasible to do so, those families whose children are institutionalized will be studied. The purposes of this project are twofold: (1) To evaluate

the behavioral changes that take place within the public and institutional school populations and nonschool populations of severely retarded children, and (2) to evaluate the changes in parent attitude and family adjustment of the parents of the school and nonschool populations of severely retarded children. San Francisco State College has developed a social competency scale as an aid in evaluating the behavioral changes of severely retarded children. A parent adaptability scale is likewise being developed specifically pertaining to parents of severely retarded children.

LEO F. CAIN, Dean, Educational Services, San Francisco College, San Francisco, Calif.

Project No. 109.

Duration: 2 years 2 months.-
March 1957 to June 1961.

A Comparative Study of the Performance of Intellectually Retarded and Normal Boys on Selected Tasks Involving Learning and Transfer of Learning

In this study, the performance of educable mentally retarded children will be compared with that of normal children of similar mental age in tasks involving certain aspects of learning and transfer of learning. The hypothesis to be tested is that differences in achievement and intelligence test performance in these two groups are related to differences in the progress they make in learning and transfer, as follows: (1) In tasks which primarily involve sensory-motor performance or simple information depending on past experience mentally retarded children will make the greater progress; (2) in learning and transfer tasks which involve simple relationships and simple arbitrary rote association, there will be no significant differences; and (3) in learning and transfer tasks which involve more complex relationships, children of normal intelligence will make the greater progress. This study will use standard controls and statistical procedures.

WILLIAM M. CRUICKSHANK, Professor of Education and Psychology and Director of Education for Exceptional Children, Syracuse University, Syracuse, N. Y.

Project No. 127.

Duration: 1 year.

December 1956 to December 1957.

Study of Screening Procedures for Special Education Services to Mentally Retarded Children

The purpose of this study is to explore the relationships between various easily administered procedures in screening and the child's need for educational placement. The end objective is to formulate a sound, effective, and workable method of screening children for placement in special classes for the mentally retarded. This study should produce suggestions to help find and diagnose children in need of

special education placement, to make reasonably sure that only eligible children are placed in classes for the retarded and to assist in identifying all the children who should be taught in such classes. The project is to be a pilot study of some 5,000 elementary school children, grades 1 through 6 in 2 representative counties. Teacher and principal referrals will be secured on this sampling and then group intelligence and group achievement tests will be administered. Based on this triple criterion the children having the lowest ratings will be selected for further intensive study including individual verbal and performance psychometric examinations, social case histories, and general and special medical examinations.

<p>W. R. BURRIS, Supervisor of Special Education, State Department of Education, Jackson, Miss.</p>	<p>Project No. 139. Duration: 2 years. June 1957 to June 1959.</p>
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A Comparison of the Educational Outcomes Under Single- and Two-Track Plans for Educable Mentally Retarded Children

The study seeks to compare the educational changes of educable mentally retarded children enrolled in the experimental 2 track program with those changes of matched educables enrolled in a 1 track plan. Under the two-track plan, each pupil will be placed either in a class for high achievers or a class for low achievers. Under the single-track plan, high achievers as well as low achievers are placed in the same class and are taught by the same teacher. Before placement, the children are carefully studied and placed in one of the two types of classes on the basis of such factors as social maturity, intelligence, physical development, and occupational prognosis. The comparative effectiveness of the curriculum, organization and procedures of the two-track plan and the single-track plan will be determined in terms of pupil growth in several areas, supervisor and teacher evaluations, and parental reactions. In other words, both objective and subjective data will be utilized. The matched-paired technique will be employed. It is planned to have from 85 to 100 classes for educable mentally retarded pupils involved in the experimental program. The pupils in these classes will total about 1,800, with I. Q.'s ranging from 50 to 75, and ages from 6 to 18. They will be drawn from varying ethnic, cultural, and socioeconomic levels.

<p>J. WAYNE WRIGHTSTONE, Director, Bureau of Educational Research, New York City Board of Education. (Contract with New York State Education Department, Albany, N. Y.)</p>	<p>Project No. 144. Duration: 2 years 2 months. May 1957 to July 1959.</p>
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Effects of a Comprehensive Opportunity Program on the Development of Educable Mentally Retarded Children

The purpose of this study is to develop an experimental program of instruction for educable mentally retarded children under the following conditions. Two experimental classes and one control class group in an Iowa city will be used. The control class will be conducted without modification. In the experimental groups special effort will be directed toward setting up a comprehensive opportunity program, embracing superior teaching, psychotherapy, a good mental hygiene atmosphere, and wholesome and effective human relations in the home and community will as far as possible be set up, under the supervision of specialists. Standard tests and time-sample observations of behavior will be used as criteria.

JAMES B. STROUD, Professor of Education and Psychology, State University of Iowa, State Department of Public Instruction, Des Moines, Iowa.

Project No. 145.
Duration: 2 years 5 months.
February 1957 to June 1959.

A Comparison of Postschool Adjustment of Regular and Special Class Mentally Retarded Individuals Served in Lincoln, Nebr., Public Schools

The purpose of this study is to compare the present status of a group of mentally retarded individuals who have been served in special classes with a comparable group of mentally retarded individuals who have not been enrolled in special classes. Its significance to the field of education is to lay a groundwork for future exploratory studies in this particular area of special education. This study is composed of an experimental and a control group. The first-mentioned group is made up of individuals that have been in a special education program. The latter group is composed of individuals who have gone through the regular school program. The comparisons will be made in terms of identification and description of community, occupational, and personal post school adjustments.

WILLIAM R. CARRIKER, Consultant in Special Education, State Department of Education, Lincoln, Nebr.

Project No. 146.
Duration: 6 months.
February 1957 to July 1957.

Critique of Research on Psychological and Educational Factors in Mental Retardation

This systematic review is intended to evaluate the adequacy of research techniques with special reference to principles of experi-

mental design, to point out flaws and explain how they may be avoided, to suggest appropriate procedures for certain problems, and to expound in considerable detail some newer principles of experimental design not yet contained in educational and psychological literature. The critique is limited to research dealing with psychological and educational factors. A great body of literature is being surveyed, especially that found in such periodicals as the *American Journal of Mental Deficiency*. From this material will be selected clusters of studies and single studies that best illustrate the methodological points to be emphasized.

JULIAN C. STANLEY, Associate Professor of Education, University of Wisconsin, Madison, Wis.

Project No. 149.

Duration: 5 months.

February 1957 to June 1957.

Conditions Influencing Insight and Problem-Solving Behavior in the Mentally Retarded

The major problem with which this research deals is the ascertainment of the favorable and unfavorable circumstances, procedures, and techniques involved in the cultivation and development of insight and problem solving behavior in various types of mentally retarded children. The purpose of identifying the circumstances, procedures, and techniques best suited to the cultivation and development of insight and problem-solving behavior, a battery of measuring devices will be developed and used on various groups of mentally retarded children as a means of refining the instruments themselves, and for the purpose of locating the ranges of mental behavior appropriate to each instrument. The final phase of the research will involve the use of these instruments in the actual testing of mentally retarded children for the purpose of identifying the circumstances, procedures, and techniques best suited to the cultivation and development of insight and problem-solving behavior in these children. This research may also: Aid in the development of techniques and procedures promoting optimum learning in the mentally retarded; further the development of a better basis for the differential education of the different types of mental retardation; and help make for more accurate and valid assessment of the differential value, or lack of it, of the various drugs, hormones, or other approaches to the altering of the physiological efficiency of the central nervous system now being investigated.

KAI JENSEN, Professor of Education, University of Wisconsin, Madison, Wis.

Project No. 150.

Duration: 2 years 6 months.

January 1957 to June 1959.

Perception of Symbols in Skill Learning by Mentally Retarded Children

This study is concerned with the process of perceiving language symbols (words, letters, numbers) as (1) cues for meaning, (2) models for skill performance, and (3) as a definition of value perception. It is proposed to study these phases of the perceptual process as they appear to operate in the school learning tasks of handwriting, spelling, arithmetic, and reading. The research design will utilize a population representing well-defined segments of intellectual functioning for comparative purposes. A major hypothesis is that retarded children perceive and act on symbols in essentially the same way as do gifted and normal children.

VIGOR E. HERRICK, Professor of Education, University of Wisconsin, Madison, Wis.

Project No. 151.

Duration: 6 months.

January 1957 to June 1957.

Motor Characteristics of the Mentally Retarded

The purpose of this investigation is to study certain motor characteristics of the mentally retarded child. The subjects for the investigation include a sample of slow learning children in elementary schools and groups of institutionalized children classified as Mongoloids and familials. A battery of 11 gross motor performance tests for which norms are available on normal children is being administered to the mentally retarded children considered as educable in the public schools. These data should provide information on the extent of the motor retardation of the slow learner, classified according to age, sex, and intelligence. With the institutionalized cases of very low intelligence, a battery of motor performance tests, including certain items of the Lincoln-Oseretsky Scale is being applied to both familial and Mongoloid children. These data will be compared with the performance scores of normal preschool children given the same battery of tests as a basis for assessing the motor development of the institutionalized cases in the age range 5 to 10 years.

ROBERT J. FRANCIS, Professor of Physical Education, Teacher Education, University of Wisconsin, Madison, Wis.

Project No. 152.

Duration: 5 months.

February 1957 to June 1957.

An Analysis of Learning Efficiency in Arithmetic of Mentally Retarded Children in Comparison With Children of Average and High Intelligence

This study proposes to test five hypotheses: (1) Uneven physical growth within the child accompanies low efficiency in learning arith-

metic; (2) slow physical growth within the child accompanies low efficiency in learning arithmetic; (3) the level of functioning as represented in strength, mental age, reading achievement, language achievements, and arithmetic achievement is the same among mentally retarded, average, and high I. Q. children; (4) speed of acquiring arithmetic learning is inversely related to retention within and among groups of children of low, average, and high I. Q.; and (5) rate of forgetting acquired arithmetic learnings is equal among children of low, average, and high I. Q. Approximately 40 subjects in each I. Q. group will be drawn from children of normal range in chronological age of third-grade children enrolled in regular or in special classrooms for mentally retarded children. The measures to be employed in the testing of hypotheses (1), (2), and (3) are height, weight, strength of grip, carpal development, permanent teeth, intelligence, and achievement test results in reading, arithmetic, and language. Testing of hypotheses (4) and (5) will require individual administration of arithmetic learning tasks over a period of time. Complete personality assessments and medical examinations, along with pertinent educational and family histories, will be obtained on the mentally retarded for descriptive purposes and possible comparisons with other mentally retarded children.

HERBERT J. KLAUSMEIER, Associate
Professor of Education, University
of Wisconsin, Madison, Wis.

Project No. 153.
Duration: 2 years 6 months.
January 1957 to June 1959.

A Study of Emotional Reactions to Learning Situations as Related to the Learning Efficiency of Mentally Retarded Children

This study will test the following hypotheses: (1) Mentally retarded children possess unrealistic self concepts and levels of aspiration in certain learning situations as compared to normally developing children; (2) mentally retarded children become more emotionally disturbed in certain learning situations; and (3) efficiency of certain problem-solving behaviors can be improved by teaching more realistic self concepts, levels of aspiration, and ways of reacting emotionally. Mentally retarded, normally developing, and mentally superior children will be drawn from regular and special classrooms, each category including approximately 40 children of third grade age. Psychological, medical, and scholastic achievement data will be collected. Presentation of specially constructed arithmetic problems to individuals will provide opportunity for measuring galvanic skin response, observation, and other assessments of emotional behavior. Teaching

for more realistic self concepts, emotional behaviors, and levels of aspiration will be attempted as data indicate, followed by further assessment of emotionality in arithmetic problem solving.

THOMAS A. RINGNESS, Assistant Professor, Education and Extension, University of Wisconsin, Madison, Wis.

Project No. 154.
Duration: 2 years 6 months.
January 1957 to June 1959.

Identification and Evaluation of Methods for Teaching Severely Retarded (Trainable) Children

This study is designed to obtain information about teaching methods being used in classrooms for severely retarded—trainable—children, as a preliminary step to establishing hypotheses for controlled research evaluating teaching procedures. Through tape and observation recordings, the procedures used in teaching trainable children will be identified and categorized. The relationship between these classroom procedures and such other measures as class size and pupil achievement will be determined. The study will include 20 classes for trainable children. The first phase of the project will involve training of observers and reliability testing of observations and categorizations. Then all-day visits will be made to each classroom in the fall and again in the spring.

MARGARET HUDSON, Assistant Professor of Special Education, George Peabody College for Teachers, Nashville, Tenn.

Project No. 155.
Duration: 1 year 10 months.
February 1957 to December 1958.

How Mentally Handicapped Children Learn Under Classroom Conditions

The purpose of the project is to determine what kinds of instruction and what kinds of classroom organization result in the optimal development of mentally handicapped children. Four major points of attack on this problem have been selected for study: (1) The effectiveness of special class organization, (2) the importance of individual interests in the reading program, (3) the role of phonics in reading instruction, and (4) the effectiveness of the unit method of instruction with mentally handicapped pupils. The effectiveness of methods of instruction and of types of classroom organization will be studied both in relation to the academic goals and the nonacademic goals of the instructional program. This study deals with educable mentally handicapped pupils with Stanford-Binet I. Q.'s of 50 to 75, ages 7

to 16 drawn from neighborhoods ranging from blighted to privileged. Control groups will be used throughout.

FRANCES A. MULLEN, Assistant Superintendent, Chicago Board of Education (Through: Illinois State Department of Public Instruction, Springfield, Ill.).

Project No. 157.
Duration: 3 years 3 months.
March 1957 to June 1960.

Application of Mowrer's Autistic Theory to the Speech Habilitation of Mentally Retarded Pupils

This problem is based upon the following known facts: (a) The incidence of speech deficiencies among the mentally retarded is estimated to be 10 times that in the normal population, (b) traditional methods of speech therapy are markedly less successful with retarded pupils than with those of normal intelligence, (c) Mowrer's Autistic Theory of Speech Development appears to be applicable for speech habilitation with mental retardates. The problem is the development of a speech therapy methodology based on this theory and the evaluation of the method. The principal objectives of the project are: (1) To develop a speech habilitation method particularly designed for application with mental retardates; (2) to subject this method to controlled experimentation contrasting it with traditional methods; and (3) to evaluate the method in relation to degree of intellectual impairment, degree of speech (articulatory) deficiency and amount of speech improvement. A random sampling of pupils considered admissible to the Speech Clinic of the Indiana State School for the Mentally Retarded will be used as subjects. Researchers will administer speech therapy under traditional and experimental conditions. The data will consist of tape recordings of standard articulation tests administered to the subjects before and after administration of the therapies. Evaluations of these tape-recorded articulation tests will be performed by panels of trained judges. The data will be analyzed by the analysis of variance technique.

M. D. STEER, Director, Purdue Speech and Hearing Clinic; and Professor of Speech Pathology, Purdue University, Lafayette, Ind.

Project No. 159.
Duration: 1 year.
June 1957 to May 1958.

How Can Reading Be Taught to Educable Adolescents Who Have Not Learned to Read?

The study is concerned with mentally retarded adolescents between the ages of 12 and 20 who are classified as educable and who are reading significantly below expectancy. In order to determine how

reading can be taught to these people, an investigation will be made in the following areas: (1) A biographical study to determine why they have not learned to read; (2) a study of what kinds and how much reading is necessary for them; and (3) a study of the methods, procedures, and materials that may or may not be effective in teaching them to read. Educable adolescents who are reading will be studied as well in order to make a comparative study. After careful screening, 10 classes will be formed in 2 public school systems and 1 resident training institution for the purpose of studying teaching methods.

RUTH BOYLE, School Psychologist and
Supervisor of Special Services,
State Teachers College, Newark,
N. J.

Project No. 162.

Duration: 2 years 2 months.
April 1957 to June 1959.

A Study of the Relative Effectiveness of Different Approaches of Speech Training for Mentally Retarded Children

The purpose of the study is to determine the relative effectiveness of different approaches of speech training for mentally retarded children. The following hypotheses will be tested: (1) The speech of mentally retarded children can be improved through speech training; (2) speech proficiency of mentally retarded children can be more effectively improved with an approach based on duplication of real life experiences than with a drill-type approach; (3) the degree of speech improvement of the educable mentally retarded, both in speech attributes and their use in real life situations, is greater than that of the severely mentally retarded as a result of the two major types of speech training used in the investigation. To test the hypotheses, the first phase of the project will be devoted to the selection, development, and standardization of a battery of speech tests which will measure speech improvement of mentally retarded children in small increments of change in various speech attributes and in ability to use speech skills in realistic communicative situations.

In the second phase of the project, two major types of speech training will be given to separate groups of mentally retarded children. The effectiveness of the two methods will then be interpreted from the comparative speech improvement made with each method. The children who will serve as subjects in the study will be selected from schools for the trainable and educable mentally retarded.

LEON LASSERS, Professor of Special
Education and Speech Rehabilitation;
and Codirector of Speech and
Hearing Clinic, San Francisco State
College, San Francisco, Calif.

Project No. 165.

Duration: 2 years 8 months.
March 1957 to December 1959.

The Effect of Group Training of 4- and 5-Year-Old Children Who Are Mentally Retarded

It is the purpose of the study to investigate the influences of group experience on selected young mentally retarded children between the ages of 4 years 9 months and 6 years 9 months. The subjects are those mentally handicapped children usually referred to as educable. The children will be divided into three groups. One "experimental" group will be stimulated by group activities; home counseling will be provided for another; results with these groups will be compared with a matched control group. The study is a cross sectional, longitudinal overlap type of experimental design in which a new group of children will be brought into the experimental situation each year. Evaluation of the "training" and "home" groups, as compared with the "null" group, will extend into the special class placement period in the public schools. The children will be measured for many aspects of development, in the areas of family adjustment, play activities, educational curriculum, materials and equipment of instruction, and similar problems.

MAURICE H. FOURAGE, Professor of Education and Head, Department of Special Education, Teachers College, Columbus University, New York, N. Y.

Project No. 167.

Duration: 5 years.

January 1957 to December 1961.

An Evaluation of Educating Mentally Handicapped Children in Special Classes and in Regular Classes

The purpose of this study is to compare the growth or progress of mentally handicapped children in regular classrooms with the progress of those in special classrooms as indicated by measurements in a number of areas. The research will include the following: (1) The mental development of these children is being studied by means of tests of general mental endowment such as individual Binet examinations but more intensively by means of as many tests of primary mental abilities as are available. These tests include a much wider range than the published tests of these abilities. Many other tests have been used widely on an experimental basis and are available for use with children of this age. (2) The progress of these children in the regular school subjects such as reading, arithmetic, spelling, and language is being followed by means of standardized tests of school achievement over a period of years. (3) Achievement toward other educational goals, sometimes called the intangibles in education, are to be studied by means of tests whenever these are available, and by means of teacher judgment in other cases. (4) The adjustment of the children within

the group and to children outside their immediate school group is being studied by means of sociograms and other measurement techniques. (5) The physical growth and coordination of the children in a number of areas and their ability to participate in games also are being studied. These problems are being studied in a large number of different schools in about 10 public school systems in North Carolina. These include county school units, large city school units, and small city schools.

THELMA GWINN THURSTONE, Professor of Education and Director of the Psychometric Laboratory, University of North Carolina, Chapel Hill, N. C.

Project No. 168.
Duration: 2 years 5 months.
February 1957 to June 1959.

Terminology and Concepts in Appraising the Mentally Retarded

A systematic review will be made of the semantic variations in the definition of the mentally retarded in terms of functional adequacy for education, training, or custodial care. The method involves the review of statutes and regulations about the classification and education of the mentally retarded, a survey of procedures used in their classification, as well as a review of published sources in terms of the names used for their classification.

IRVING LOBEK, Executive Officer, Institute of Psychological Research, Teachers College, Columbia University, New York, N. Y.

Project No. 170.
Duration: 1 year.
February 1957 to January 1958.

An Exploratory Study of Educational, Social, and Emotional Factors in the Education of Retarded Children in Georgia Public Schools

The purpose of this study is to evaluate educational achievement, social status, and emotional adjustment of retarded children in three school environments: (1) Retarded children in special classes which meet Georgia State standards; (2) retarded children in regular classes provided with the services of an itinerant specialist serving these teachers, retarded children, and their parents; and (3) retarded children in regular classes with no special education services. The results will be studied with regard to the relative effectiveness of these three school environments for mentally retarded children. The groups will be matched with regard to: (a) Mean chronological and mental age and distribution, (b) rural and urban distribution, and (c) sex distribution. Screening procedures will be applied to a sufficient number of children so that the final testing will include at least 50 pupils in

each group. Three periods of testing will be conducted to determine initial status and any changes at the end of 6 months and 1 year.

STANLEY AINSWORTH, Chairman, Program for Exceptional Children, University of Georgia, Athens, Ga. Project No. 171.
Duration: 2 years.
July 1967 to July 1969.

A Comparative Investigation of Methods of Testing Auditory and Visual Acuity of Trainable Mentally Retarded Children

The purpose of this study is to develop and evaluate auditory and visual testing procedures most useful in testing trainable mentally retarded children (I. Q. 25 to 50, and below an M. A. of 8 years). Approximately 50 children will be used and will be drawn from the Austin State School for Retarded Children, a local center sponsored by the Austin Council for Retarded Children, and classes for retarded children in the Austin Public Schools.

WILLIAM G. WOLFE, Professor of Educational Psychology, University of Texas, Austin, Tex. Project No. 172.
Duration: 2 years 8 months.
February 1967 to September 1969.

Perceptual and Response Abilities of Mentally Retarded Children

This study consists of three phases: (1) an investigation of perceptual and response capacities of mentally retarded children, and the development of reliable techniques and methodology in this area which differentiate between perceptual and response processes; (2) a development based upon these techniques, of classifications diagnostic of differential response and perceptual capacities and decrements; and (3) an attempt to develop and test, according to these classifications, differential educational and training methods for the mentally retarded. At present only the first of these phases is being investigated. The purpose is to delve into the problem of mental retardation from the standpoint of both perception and response with reference to the modalities of vision and audition. The study is designed to determine whether or not the ability to perceive and to respond is definable and has recognizable characteristics as related to the factor of intelligence. Approximately 200 subjects will be used, and the population will consist of individuals classified according to intelligence—extending from above average through the range generally considered as indicative of severe mental retardation. Statistical analysis will be utilized and the results will provide the basic framework for further investigation involving the second and third phases of the study.

JOHN O. ANDERSON, Professor of Speech and Hearing Pathology, Southern Illinois University, Carbondale, Ill. Project No. 176.
Duration: 2 years.
March 1967 to March 1969.

A Study of Social Adequacy and of Social Failure of Mentally Retarded Youth in Wayne County, Mich.

The principal objectives of this research project are: (1) To develop a procedure for evaluating the effectiveness of educational programs for retarded children and to apply this procedure to retarded children who have been enrolled in special classes; (2) to obtain new knowledge concerning factors which either singly or in combination tend to facilitate or impede social adequacy; (3) to attempt to evaluate these factors quantitatively and qualitatively; and (4) to present this knowledge in a form which can be effective in developing and improving curriculum materials, guidance services (including parent counseling), vocational training and placement, the use of community resources, and teacher education. Studies of social adequacy and failure will be made of approximately 200 pupils formerly enrolled in Special B classes for the mentally retarded in the Detroit Public Schools, and of approximately 200 pupils formerly enrolled in the Wayne County Training School. The findings from these groups will be compared with those from 100 mentally normal boys and girls of comparable age, race, sex, and socioeconomic background.

JOHN J. LEE, Chairman, Department of Special Education and Vocational Rehabilitation, Wayne State University, Detroit, Mich.

Project No. 178.

Duration: 2 years.

January 1957 to December 1958.

A Study of the Communication Problems of the Mentally Retarded Child and the Effects of These Problems on Learning Potential

It is sometimes assumed that speech and language therapy is not warranted for the mentally retarded child. Yet, using standardized mental tests, a communication problem alone can hinder accurate evaluation of intellectual potential. This 3-year study proposes to investigate the relationship between communication competence and learning potential to determine whether or not communication problems affect the learning potential of the mentally retarded child. The first phase will analyze data from extant comprehensive case histories of mentally retarded children with communication problems. The second phase will study additional subjects using specific test procedures designed or selected as indicative measures of communication behavior. The third phase will emphasize a language therapy program to study whether or not speech and language problems contribute to the depression of intellectual scores. It is predicted that this study

can result in new differential test and therapy procedures for mentally retarded children with communication disorders.

NANCY E. WOOD, Coordinator of Clinical Services, Cleveland Hearing and Speech Center, and Associate Clinical Professor, Western Reserve University, Cleveland, Ohio.

Project No. 184.
Duration: 2 years 8 months.
April 1957 to December 1959.

Investigation of Mental Retardation and Pseudomental Retardation in Relation to Bilingual and Subcultural Factors

The purpose of this study is to investigate further "pseudomental retardation" as compared with true mental retardation in a bilingual and subcultural setting. The factors will be studied by the method of repeated tests over a 3-year span in an adapted but relatively constant learning situation. Mental (verbal and performance), achievement, and language tests and sociological study of the children's environments will be used as criteria. The subjects will be recent immigrant Mexican children and Indian children in special classes for bilingual children. It is hoped by this means to throw further light on the controversial problem of pseudomental retardation.

WELBARD ABRAHAM, Head, Division of Special Education, Arizona State College, Tempe, Ariz.

Project No. 185.
Duration: 3 years.
June 1957 to June 1960.

A Comparative Study of Day Class vs. Institutionalized Educable Retardates

The present study represents an extension of a study already underway which dealt with the later adjustment of individuals discharged from a State institution for the mentally retarded. In this extension, it is planned to rework present data for the purpose of developing a more efficient technique of prediction and to study further interactions among the various characteristics of the group. In addition, it is planned to: (1) Make a comparison of the above population with a population from special classes in community schools, (2) make a comparison of the rate of institutionalization from districts having special classes and districts which do not have such classes, and (3) make a detailed comparison of population now in the institution with a comparable population in day classes. These data would be used for later followup studies. The present study is projected on a 3-year basis.

MAYNARD C. REYNOLDS, Associate Professor of Educational Psychology, University of Minnesota, Minneapolis, Minn.

Project No. 192.
Duration: 3 years 4 months.
May 1957 to September 1960.

PART 2

PART II

- Research on Other Aspects of Education

Research on Other Aspects of Education

THE REMAINING THIRD of the research funds available for fiscal 1957—that part not designated for the retarded—was used to initiate 30 additional projects aimed at providing new knowledge about some of the other important problems in education. Although it was not possible to cover all of the problem areas originally identified by the Office in setting up the program, work was begun on the development of special abilities, the educational aspects of juvenile delinquency, the retention of students in schools and colleges, and the process of developing and supplying good teachers at all levels. In addition, there are some other projects dealing with individual problems which, while they do not fit into any of the major categories, are clearly related to them.

These projects involve a total of 3 State departments and 37 institutions of which 19 are conducting research initiated by them and 18 others are cooperating in a single project directed by the Office. Altogether they represent a total of 20 States, the Territory of Alaska, and the District of Columbia.

Brief descriptions of each of these 30 projects were prepared by the author of this section and were sent for review to the project directors. The descriptions are grouped here according to the problem areas with which they deal. At the end of each is given the name of the director or chief investigator and the name of the institution or agency with which the contract for the research has been made. Also included are the serial number by which the project is identified, the duration of the project, and the approximate beginning and ending dates.

These descriptions should be regarded as statements of work now in process or of work planned for the future rather than as statements of work already accomplished. Further information about any specific project should be sought from the director or chief investigator of the project rather than from the Office.

DEVELOPMENT OF STUDENTS' SPECIAL ABILITIES

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IF THIS NATION is to achieve and maintain a position of world leadership in scientific fields and if it is to advance toward greater leadership in cultural fields, it is necessary to develop the full potential

of every student, particularly of those possessing special abilities which will permit them to excel in any one of the many fields of human endeavor. This Nation cannot afford to neglect the basic source of its technological, economic, cultural, military, and political strength, for in our country which is growing so rapidly, the direction and extent of our progress are largely dependent on the character and ability of our educated citizens.

As part of its emphasis on the conservation and development of all human resources, the Office of Education—through its Cooperative Research Program—proposes to explore the role of the schools in providing an educational program to encourage the fullest possible development of students endowed with special abilities of various types—intellectual, social, aesthetic, or vocational.

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Effectiveness of Counseling in Promoting Learning Among Bright, Underachieving Adolescents

This project is an experiment to see to what extent bright adolescents who are not doing well in school can improve their academic standing as a result of a special counseling process. The study will also determine the degree to which this counseling brings about a more positive attitude toward study in general. The procedure used is one in which the intelligent but underachieving student may diagnose his own failures and plan ways of repairing his own deficiencies.

The experiment involves 12 bright, underachieving, ninth-grade boys who will be divided into 2 groups. Biographical data, interest scores, and personality indices will be gathered on each individual. The experimenter will then prepare 12 disguised case studies, each characterizing a member of the group. In all cases, one of the problems to be considered will be lack of scholastic achievement.

The counseling will consist of a series of six sessions during which each group will discuss the cases. It will be the responsibility of the group to isolate the problems in each case and to suggest possible ways of resolving them. By comparing the changes in school achievement and changes in attitude toward study of the experimental group with any changes occurring in a control group, it will then be possible to determine the effects of this counseling procedure and to see whether or not the participants have been able to transfer their learnings to their own situations.

SISTER MARY VITERBO MCCARTHY,
C. S. J., Instructor in Psychology,
Regis College, Weston, Mass.

Project No. 052.
Duration: 10 months.
October 1956 to August 1957.

Intellectual, Personal, and Social Functioning of the Gifted Adolescent in the Classroom

This research project is directed toward an examination of the gifted adolescent as he operates within the classroom. Without such knowledge there can be no reasonable foundation for curriculum changes based on more than mere expediency. More specifically, the major objectives are: (1) To develop a plan for identifying subgroups within the "gifted" population—such as the "intellectually superior," the "specially talented," or the "socially gifted"; (2) to describe the personal, social, and intellectual functioning of these subgroups; and (3) to analyze the pattern of interaction of these subgroups with their age peers and with adults who are important in the school environment.

Data for this study will be gathered from approximately 350 7th-through 10th-grade students attending a university laboratory school and from a slightly smaller sample of 7th through 10th grade students attending public schools. From the gifted students, data will be gathered concerning their concepts of themselves, their views of others, their intellectual functioning, and their life goals. From age peers and teachers, data will be gathered on their concepts of the gifted student, their interactions with the gifted, and their views of the relationships between teachers and gifted students. Biographical and value-pattern data will be sought from parents. The data will be subjected to appropriate statistical treatment, and clinical studies of individual cases will also be made.

J. W. GETZELS, Associate Professor of
Education, University of Chicago,
Chicago, Ill.

Project No. 098.

Duration: 2½ years.

January 1957 to June 1959.

Social Adaptations of the Highly Intelligent Pupil

The purpose of this project is to examine the social adaptations of highly intelligent children as compared with those of average and low intelligence. It is assumed that the person with high intelligence has resources in the form of ideas and suggestions which are of value to the class in many activities. These resources may be completely utilized or completely ignored. The bright child whose ideas or suggestions are accepted by the group has a position of influence in the class. His interpersonal relations seem likely to differ from those of the bright child whose suggestions are ignored by his classmates. This project will test the validity of the prediction that the student of high ability whose ideas are accepted will be secure in his position and that the child with high ability whose influences are not acceptable will be insecure, and their behavior will differ considerably.

Children in the second and fifth grades having very high, average, and low intelligence will be selected for study. Within each category the children will then be divided into classes of persons who have different degrees of influence and expertness attributed to them by peers and teachers. They will be given a series of standardized group problem-solving tasks during which their interpersonal behavior will be studied. Those with different degrees of intellectual ability and power will be compared in respect to their interpersonal relations during the problem-solving sessions and in respect to the behavior usually accorded to them in the classroom.

ALVIN ZANDER , Director, Research	Project No. 009.
Center for Group Dynamics, University of Michigan, Ann Arbor, Mich.	Duration: 8 months.
	January 1956 to September 1957.

EDUCATIONAL ASPECTS OF JUVENILE DELINQUENCY

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The continued growth of juvenile delinquency is a national problem, but it is one which must be dealt with locally in the thousands of communities where the delinquent juveniles live. Since the public school is the only institution having direct contact with almost every youth between the ages of 6 and 16, it is essential that the role of the school in detecting and preventing delinquency be more clearly defined. As part of its major emphasis on conserving and developing human resources, the Office of Education proposes to support research aimed at finding out how the public schools of each community can identify delinquency-prone children and what measures the school can take to prevent them from drifting further toward delinquency.

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A Sociopsychological Study of Conformity and Deviation Among Adolescents

The three major objectives in this project are: (1) To describe the value attitudes of adolescents who are still in school, (2) to describe and analyze the factors in conformity-performance-deviation in the schools, and (3) to account for nonconforming behavior (or deviation) in the school and in the larger community.

Five groups will be identified among 7th- and 12th-grade students. These groups are: (a) Those who, in the opinion of school authorities, conform highly to school expectations and are highly motivated within the school framework of values, (b) those who are definitely not motivated or do not conform within the school framework although neither officially truant nor delinquent, (c) those officially recorded as truant from the school, (d) those who drop out of school

during the period of the study, and (e) those officially recorded as delinquents.

These groups which differ in conformity will be investigated to see whether or not they differ in the extent to which they accept various ends and means values in society. The varying relationships of conformity or deviation and the standard set for the behavior by the student himself, by his immediate peer group, by his school, and by his perception of his parents' standards will all be examined.

ALBERT J. REISS, JR., Chairman, Department of Sociology and Anthropology, Vanderbilt University, Nashville, Tenn. Project No. 012.
Duration: 3 years.
September 1956 to September 1959.

Sociological and Educational Factors Among the Causes of Juvenile Delinquency

This study proposes to demonstrate some factors contributing to "delinquent" behavior and to emphasize the implications with respect to the school. The project aims to identify the specific trends in interpersonal behavior which characterize the juvenile delinquent, to show the pattern of response to such delinquent behavior by parents and teachers, and to demonstrate the circumstances governing the emergence of such parental and teacher response behavior which adds to even less satisfactory behavior on the part of the delinquent.

The study will be based on 3 samples of 14-to-16-year-olds with approximately 25 subjects in each group. The samples are described as: (1) "Delinquents" identified through juvenile court records, (2) "difficult youngsters" identified by teachers as those who have not become involved with legal authorities but who are causing concern and disturbance in the school, and (3) "adjusted youngsters" drawn at random from among the classmates of the other two samples. The personality trends of each student will be measured, and an interview questionnaire will be used with parents, teachers, and the children themselves. From this information it will be possible to evaluate the truth or fallacy of the assumptions that potentially delinquent patterns of behavior appear at all social class levels, that actual delinquency occurs only where teachers and parents have withdrawn emotional support and acceptance of the child, and that middle class "difficult youngsters" will come from rejecting homes but will receive some support from the teacher, while lower class "difficults" will come from supporting homes but will be rejected by teachers.

GEORGE G. STERN, Associate Professor of Social Psychology, Syracuse University, Syracuse, N. Y. Project No. 179.
Duration: 2 years.
February 1957 to February 1959.

A Sociopsychological Study of Acts of Vandalism in Schools

This research project proposes to develop some valid generalizations concerning: (a) The nature of an act of vandalism; (b) the sociopsychological characteristics of the children involved; (c) the school situation including such factors as morale, teacher-pupil relationships, and extracurricular programs; and (d) the home environment with regard to the attitude of parents toward such acts, toward the school, and toward generally accepted values of society.

Material for this study will be provided by investigation of all acts of vandalism performed by juveniles in and near Syracuse during or after curricular activities on school property, on public transportation systems, and in public buildings used for extracurricular activities. The children involved, teachers, school administrators, other pupils, police, and any additional witnesses will be asked to discuss the act of vandalism. The act will be reconstructed in order to identify meanings or symbols which may exist. The culprits will be given personality assessments and a measure will be taken of their attitudes toward the school and toward public property. The home environments will be evaluated by social workers or visiting teachers. Information will be gathered on at least 100 acts of vandalism, and these will be analyzed by a professional team including a sociologist, a psychologist, a psychiatrist, and an educator.

NATHAN GOLDMAN, Associate Professor of Sociology, Syracuse University, Syracuse, N. Y.

Project No. 181.

Duration: 2 years.

February 1957 to February 1959.

RETENTION OF STUDENTS IN SCHOOLS AND COLLEGES

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In this country the general aim of our entire educational system is the fullest possible development of every individual within the framework of our present industrialized, democratic society. In order to accomplish this aim it is generally necessary for each individual to remain in school as long as he can reasonably profit from the instruction given. Through its Cooperative Research Program the Office of Education proposes to support research which will provide information on how the schools and colleges can encourage students to continue their studies until they have reached their highest academic potentials.

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Factors Related to Decisions of College-Ability High School Graduates to Enter College

This investigation seeks answers to two major questions: (1) How much waste is there in human manpower as indicated by the number

of college ability high school seniors, in a State such as Arkansas, who do not continue their education; and (2) to what extent are rural-urban backgrounds, social-economic factors, and individual motivations related to the students' educational and occupational plans?

Since Arkansas has a Statewide testing program, those students graduating in 1957 who achieve a selected level or above will form the basic population. Approximately 15,000 high school seniors will be asked to reply to a specially designed questionnaire concerning their plans for further education and related factors. A followup study will be conducted to determine how many of the 1957 graduates go on to college next year. The questionnaire data will be analyzed to identify factors which are involved in educational and occupational plans and which differentiate between the high ability students who go on to college and those who do not.

DEAN O. ANDREW, Director of the	Project No. 008.
Counseling Center, Southern State	Duration: 2 years.
College, Magnolia, Ark.	October 1956 to October 1958.

Factors Associated With Educational Utilization of Human Talents

This project is designed to improve the utilization of human talent by examining the relationships among a young person's environment, his early learning experience, his mental and emotional equipment, his educational history, and his special talents. The proposition to be tested is that a person's ability to use any special talent such as creativity, leadership, or a special competence depends on three sets of factors which are important during his school years. These factors relate to his potential educability, his general responsiveness to the school situation, and the degree of change produced by stimulation through specific variations in teaching and guidance. It appears that these vary according to the child's developmental history, his family background, acceptance by his peers, the roles in which he sees himself and those which influence his behavior, and his mental health.

Sample populations of approximately 150 boys and girls in the seventh grade of junior high schools located in 4 Texas communities are being used, thus providing 2 experimental and 2 control groups. During the first year background data are being gathered with regard to the student's potential educability, responsiveness, developmental history, and family background. A number of tests, indices, and other measures are being used and the results will be subjected to factor analysis and other analytical procedures. The second and third years are to be devoted to experimenting with varying the stimuli in the educational situation and to studying their effects. These will include: (a) Changes in the classroom environment and atmosphere, (b) matching teachers and students for increased learning

effectiveness, (c) special grouping of pupils, (d) a public relations program involving the community with the school, (e) personal counseling of students, and (f) family counseling.

CARSON McGUIRE, Professor of Educational Psychology, University of Texas, Austin, Tex.

Project No. 025.

Duration: 3½ years.

February 1957 to August 1960.

Why Capable High School Students Do Not Continue Their Schooling

The purpose of this study is to identify some of the real reasons why approximately one-fourth of the top 10 percent of students in Indiana high school graduating classes do not enter college. It is generally agreed that these top graduates are highly desirable human resources and they should be developed by further education. This study will seek to find out why such young people fail to continue their education, whether the real reasons are such that they could be remedied, what help might be provided by creating scholarships or by increasing the number of junior colleges, whether the high school guidance program has been utilized to direct these young people toward college, and whether or not colleges have made a maximum effort to encourage and interest them in attending.

The study started with the top 10 percent of all high school graduates (3,600 persons) during 1954-55 and is being followed with the top 20 percent of all graduates during 1955-56. Data are being gathered primarily through individual interviews and are being supplemented by additional information on the kind of high school the individual attended, his nearness to an institution of higher education, and the type of counseling available to him.

WENDELL W. WRIGHT, Dean, School of Education, Indiana University, Bloomington, Ind.

Project No. 037.

Duration: 18 months.

September 1956 to March 1958.

Factors Related to Withdrawal From Secondary Schools in Iowa and Means of Increasing Their Holding Power

This study aims to identify characteristics which distinguish pupils who withdraw or "dropout" from pupils who persist in secondary school, to identify the differences between schools having a high holding power and those with low holding power, and to try out experimental programs designed to increase this holding power in secondary schools. The project is based on the assumptions that individual pupils have certain characteristics related to a tendency to withdraw, that there are certain features of a school program related to withdrawal, that there are also family and community factors which influence this tendency, and that the school can alter its program so as to encourage pupils to persist. Information on students who withdraw

is being gathered in approximately 10 percent of the secondary schools in Iowa—about 80 schools in all. The study will consider the individual student's intelligence, reading grade level, achievement, test scores, school marks on report cards, and participation in extracurricular activities. Other data will present aspects of the school program such as its size, the teacher load, the scope and nature of curriculum, the marking and promotion policy, the activity program, the provision for individual differences, and the guidance and counseling services. Next, experimental programs concerning the influences of specific factors in the school program will be tried out in selected high schools of different types and sizes, and the effects will be measured in terms of the dropout rate.

L. A. VAN DYKE and K. B. HOTT, Professors of Education, State University of Iowa, Iowa City, Iowa. (Contract with Iowa State Department of Public Instruction, Des Moines, Iowa.)

Project No. 160.
Duration: 1 year.
February 1957 to February 1958.

Factors Related to Application, Admission, Registration, and Persistence in College

This project proposes: (1) To establish bases for better admission policies and practices in colleges and universities, (2) to determine what intra-institutional factors affect student retention rates, and (3) to explore, where feasible, measures which might be taken to increase the rate of retention. The work, which is being coordinated and directed by the Office, is being carried out in 20 cooperating schools.

Each institution has agreed both to assemble and to analyze data which will deal with: (1) The reasons why students who have actually been "admitted" fail to register and (2) the relationship of ability, objectives, and economic factors to persistence in college. Each school will assemble information about students who have not registered after being admitted and will inquire into the impact of economic factors upon those who do not register. Each institution will also investigate any separation or change in status of undergraduate students during 1956-57 with particular reference to financial factors. In addition, each will study the effect on student retention of financial grants and assistance in various forms and will gather whatever information is available concerning other financial aid which is not administered by the institution.

E. V. HOLLIS, Director, College and University Administration Branch, Office of Education, U. S. Department of Health, Education, and Welfare, Washington, D. C.

Project No. 166.
Duration: 18 months.
January 1957 to January 1958.

Decisions of Youth About Education Beyond High School and Factors Which Influence Them

This project is designed to extend several recent studies dealing with the problem of higher education for all capable students. Its purposes are: (1) To establish facts which will help in planning statewide programs of higher education, (2) to identify factors which influence capable young people in their decisions about continuing education after high school, and (3) to test procedures designed to identify young people having a high potential for educational achievement and to motivate them to enter and complete college. The results will also be of value in establishing high school and college counseling programs, college admission policies, and scholarship policies.

During the spring of 1957 data were gathered from all graduates of Wisconsin high schools concerning their plans for the next year, the conditions influencing these plans, and their personal and family status. Parents of a 10-percent sample of these high school graduates provided information on their opinions about education beyond high school and about such education for their own children. High school teachers supplied information about class rank of graduating students and about students identified by teachers or counselors as having a potential for high level achievement in some specified field.

During the school year 1957-58 a followup study will be made of those who do not enter college. At that time data will be gathered on the differences between their plans and what they actually did, changes in their attitudes about continuing their education, and the occupations and achievements with which they are concerned. A second followup will be made 5 years later to see what further changes have occurred.

Basic information about college graduates was collected in the spring of 1957. These data will be compared with that collected from entering freshmen to see what factors might have influenced the graduates to persist in college, and a followup will be made later to identify those continuing in graduate school, with particular attention to science and mathematics as compared with social studies and humanities.

J. KENNETH LITTLE, Professor of Education and Vice President in Charge of Students Affairs, University of Wisconsin, Madison, Wis.

Project No. 247.
Duration: 1½ years.
May 1957 to August 1958.

STAFFING THE NATION'S SCHOOLS AND COLLEGES

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A major problem for education in the United States today is that of staffing our educational institutions from the kindergarten through

college. It appears that the problem of getting enough good teachers and administrators will be critical for several more years.

As a part of its continuing interest in the problems of school organization, staffing, and housing, the Office of Education proposes to support basic research to secure much needed information concerning teachers and administrators. The purpose of this research will be to provide reliable, fundamental data required as a foundation for programs of action that may be developed to insure a more adequate and stable staffing of our schools and colleges.

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Professional Preparation and Performance of Graduates of Teacher Training Institutions in Indiana

This investigation proposes to explore the professional preparation and performance of graduates of Indiana teacher training institutions. More specifically, it will seek answers to the following questions (1) To what extent does teacher preparation with regard to coursework, labwork, and student teaching, differ in different types and sizes of teacher training institutions? (2) Are there differences in attitude toward teaching held by graduates of different types and sizes of training institutions? (3) Are there differences in the way administrators evaluate the performances of graduates of the different kinds of institutions? (4) Are there initial differences among the students who seek to enter the different types and sizes of teacher training institutions?

Information will be gathered on all of the 1954 graduates who are now currently teaching in Indiana and who were graduated from 24 Indiana institutions of higher education having standard programs of preparation for teacher training. A content analysis is being made of each teacher's academic transcript, and additional data are being gathered through the Minnesota Teacher Attitude Inventory, a rating scale to be completed by school administrators, and a teacher activity questionnaire. Standard statistical techniques will be used in analyzing the data.

LLOYD S. STANBLEE, Assistant Professor of Education, Indiana University, Bloomington, Ind.

Project No. 039.
Duration: 1 year.
October 1956 to October 1957.

Motivational and Personality Factors in the Selection of Elementary and Secondary School Teaching as a Career

This study is based on the general theory that people selecting different occupations can be differentiated on the basis of their own psychological needs and personality factors. The major objectives include determination of: (1) Purposes and needs which lead an in-

dividual to select teaching as a career; (2) kinds of external factors, such as parents, teachers, or friends, which may influence the young person to become a teacher; (3) similarities and differences between the actual practice of teaching and the expectations young people have when they choose it as a profession; and (4) kinds of interests and experiences which lead an individual to select a teaching career. It may also be possible to identify the characteristics and motivations of those who select different areas of teaching such as social studies, science, or mathematics.

Approximately 1,200 undergraduate students at Syracuse University will provide information for this project. Comparisons will be made of women students selecting elementary and secondary teaching and women making other vocational choices; of men students selecting secondary teaching and men making other choices; and also comparisons of men and women selecting teaching. Data are being gathered through personality measures, vocational interest inventories, tests designed to measure psychological needs, questionnaires dealing with expectations and concepts of teaching as a profession, and interviews. Standard statistical procedures will be used to analyze the data, and it is anticipated that the wide variety of research techniques—rather than dependence on a single procedure—will be especially productive in this study.

RAYMOND G. KUHLEN, Professor of
Psychology, Syracuse University,
Syracuse, N. Y.

Project No. 047.
Duration: 15 months.
October 1956 to January 1958.

Changing Motivations, Pressures, Satisfaction, and Dissatisfactions in the Development of a Career in Public School Teaching

This study is an extension of the preceding one, No. 047. Whereas the first project concentrates on young people in the process of selecting careers and the factors influencing their choices, this second study deals with the career itself as it develops from beginning full-time employment through the course of a life's work. An understanding of how a professional career develops will be of value in planning ways of attracting people into the teaching profession and also in retaining them.

The major objectives include: (1) Assessment of the extent to which early needs and expectations are fulfilled during the teaching career, (2) examination of the way in which needs and goals change as the adult ages, (3) determination of the pressures, satisfactions, and frustrations that lead teachers to continue in this work or to seek other positions, and (4) description of job sequence patterns that characterize a career in education.

Approximately 1,350 secondary school teachers employed in urban centers of central New York, such as Syracuse, Rochester, Binghamton, and Utica, are providing the information for this study. Included will be teachers in all 9 of the 5-year age spans from 20 to 65 in each of three groups--married men, single women, and married women. Here the primary research technique will be the interview, but data will also be gathered concerning: (1) The teachers' backgrounds and job histories; (2) their own estimates of their goals, satisfactions, and dissatisfactions; (3) estimates of an observer with respect to the teachers' motivations; and (4) test scores regarding job needs and satisfactions. The analyses will be designed to show the proportion of individuals having various career characteristics at each age level in each of the three groups and will permit identification of age trends with regard to job satisfactions and motivations.

RAYMOND G. KUHLEN, Professor of Psychology, Syracuse University, Syracuse, N. Y. Project No. 048.
Duration: 23 months.
April 1957 to January 1959.

Role of the Public School Teacher in the School and in the Community

This study is concerned primarily with the definition of the role of the teacher in the public school system and in certain aspects of community life. The first objective will be to identify the teacher's role as he sees it and as it is seen by other kinds of people having special interest in public education. These definitions of role will establish what the teacher expects of himself in the way of performance and what other people expect of him. A second objective will be to discover and analyze the conflicts and the agreements among public school teachers with respect to the role to be performed by the teacher both in and out of school. Data gathered during this study will also be used to identify the social status and the economic concerns of public school teachers and to discover the social origins of the majority of these teachers. The research plans call for information to be gathered through personal interviews with approximately 3,000 persons. Among them will be public school teachers, school administrators, school board members, civic leaders, business and financial leaders, Parent-Teacher Association members, and citizen advisory committee leaders. The data will include both qualitative and quantitative information about the personal and social characteristics of teachers as well as information about the way they see the job they are expected to perform and the way others see this role.

ROR C. BUON, Associate Professor of Rural Sociology, Pennsylvania State University, University Park, Pa. Project No. 065.
Duration: 3 years
January 1957 to December 1959.

An Evaluation of the Preservice Training Program of Florida Teachers

This study proposes to find out how teachers feel about their preservice education. It will also identify how school principals feel about the preservice training programs of their teachers, and it will gather suggestions of both teachers and principals as to how such training might be improved.

Information is being gathered from approximately 3,000 teachers who taught for the first time during the 1954-55 school years. Data gathered include evaluation of their own preservice programs by the beginning teachers, evaluation by the principals of how well this program equipped the teachers for their jobs, scores of the beginning teachers on the Minnesota Teacher Attitude Inventory, and their responses to open-end questions.

These data are, in part, being converted to numerical values and analyzed statistically. Among the groups to be compared are teachers who received preservice training in the State and those trained outside, teachers working on the elementary and those on the secondary levels, those having different lengths of experience, those who are fully certified and those who are not, and those having 4 years of training as compared with those having 5.

J. B. WHITE, Dean, College of Education, University of Florida, Gainesville, Fla., and J. T. KELLY, Florida State Department of Education, Tallahassee, Fla. Project No. 156.
Duration: 5 months.
February 1957 to June 1957.

Factors Influencing the Choice of College Teaching as a Career

In contrast with the studies previously described dealing with public school teachers, this project deals with those who choose to teach on the college level. With the enrollments in institutions of higher education likely to reach 6 million by 1970, it is becoming increasingly important to attract a sufficient number of qualified faculty members.

The immediate objectives of this study are: (1) To get information about the social and educational backgrounds of college teachers, their reasons for selecting this career, and their satisfactions with their choice; (2) to develop some means for identifying personality and background factors which influence qualified persons to enter college teaching; and (3) to provide an overall picture of college teachers in Minnesota that would be useful in planning a nationwide study of motivations for college teaching. The accomplishment of these objectives would provide a basis for working out more detailed investigations of why persons join college faculties. Recruitment efforts could then be increased and improvements in status and conditions of

service could be made so that more qualified persons would be attracted to college teaching.

Approximately 25 percent of the full-time college teachers in Minnesota—about 1,000 persons—will provide information for this study. They will answer a questionnaire which asks about family background, previous experience, present position, and reasons for entering college teaching. About 10 percent of the teachers will also be interviewed. Since so little research has been done in the area of college teaching, and since that which has been done is rather scattered, this exploratory study is expected to provide much needed basic information.

JOHN E. STECKLEIN, Director of the
Bureau of Institutional Research,
University of Minnesota, Minneapo-
lis, Minn.

Project No. 169.

Duration: 10 months.

January 1957 to November 1957.

Use of the Admissions Interview for Predicting Success in Teaching

Recent studies suggest that in professional fields where standards of selection for admission to the training program are raised there is definite advancement of professional status and an increased supply of qualified candidates. This study is designed to develop the admissions interview as a tool for exercising greater selectivity in choosing candidates for teacher training.

The admissions interview focuses largely on personality factors, widely recognized as one of the most important elements in teaching success. In order to develop further the usefulness of this interview in assessing these personality factors, the study proposes to explore two important aspects—the content as related to the interviewer's predictive value and the effect of the interviewer's own personality on his prediction. The overall objective is to identify the major sources of variation in interviewer or counselor predictions of teaching success based on the admissions interview.

The subjects of this investigation are approximately 150 sophomores in the College of Education who are majoring in elementary education. Each student will be interviewed by a trained counselor and will also take a battery of standardized psychological tests already in use as a tool for selection. The students will be assigned at random to the interviewers, and the content of the predictions, together with test results and subsequent scholastic achievement, will provide data for statistical analyses of variations among interviewers and variations according to content.

WILLIAM H. EDSON, Director of Stu-
dent Personnel, University of Min-
nesota, Minneapolis, Minn.

Project No. 173.

Duration: 1½ years.

January 1957 to June 1958.

Factors Affecting the Retention of Students in Teacher Education

Basic research is needed to provide descriptions of the intellectual, personality, and experience factors that distinguish students who complete professional teacher training from those who do not and factors which distinguish students who become superior teachers from those who are less adequate. Ideally, such research should be "longitudinal," of the type that follows the subjects over a long period of time. This study is one part of a proposed 10-year longitudinal study to be conducted by the University of Minnesota. Its major objective is to discover the personality and experience factors which distinguish those students who are most successful in the professional teacher training courses and who actually enter teaching from those who drop out along the way.

Information is being gathered from all students, approximately 850, who enter the junior professional sequence of courses in the College of Education each fall. These students are divided into groups according to the area in which they are to major. The kinds of data being collected are: (1) Biographical information; (2) academic records; (3) test measures on abilities, interests, and personality factors; (4) interview reports; and (5) observational records made by faculty members during the sequence of professional courses. There will be immediate followup of those students who drop out at various points during the training program, and the final analyses will be designed to detect the differences between those who persist and those who leave.

WALTER W. COOK, Dean, College of
Education, University of Minnesota,
Minneapolis, Minn.

Project No. 174.
Duration: 2½ years.
January 1967 to June 1969.

Unconscious Factors in Career Motivation for Teaching

Recently several research studies have been directed toward the investigation of men's unconscious motives or purposes in pursuing certain courses of action. The findings have been successfully applied in selecting personnel in industry, science, and the ministry. The present project aims to gather information about how a knowledge of such unconscious factors might be used to predict whether or not an individual would be successful in teaching. Many ideas will be tested in the process. For example, one is the supposition that dominant teachers will have more lateness and absenteeism among their pupils and will be more likely to use coercive methods, and another is the supposition that technique-oriented teachers will spend a larger part of class time in formal lesson presentations rather than in personal interaction with the children. The study proposes to

develop instruments which will identify unconscious factors in career motivation among teachers and to relate such factors to performance in specific areas of elementary school teaching.

Subjects for this study will include elementary school teachers from the Syracuse school system and students at Syracuse University and the teachers colleges at Fredonia and Buffalo. The basic data will consist of performance ratings made during teacher training, observations and ratings in standardized role-playing situations, and measurements of teacher performance as indicated by pupil achievement, absenteeism, and so forth. By use of standardized instruments, groups representing the different motivational patterns will be selected, and the performance of each type will be studied in order to determine specific consequences in teaching practices which are associated with the given type of motivation.

GEORGE G. STERN, Associate Professor
of Rural Psychology, Syracuse Uni-
versity, Syracuse, N. Y.

Project No. 188.
Duration: 1 year.
February 1957 to January 1958.

Development of Criteria of Success in School Administration

The general purpose of this project is to develop means for measuring the possibility of one's success in dealing with problems of school administration. Such results would lead to better selection of students for training in this area, better evaluation of the instruction offered them, and better evaluation of on-the-job performance of people already in administrative positions. More specifically, this study aims: (1) To develop criteria for the evaluation of school administration, (2) to define the nature of the job of the school administrator, and (3) to develop an instrument for the selection of administrators.

The first step of the project will survey current job descriptions and will make a theoretical analysis of the school administrator's job. The second step will develop materials related to the various types of actual problems encountered by the administrator and the design of test situations which represent these aspects of the administrator's job. The third step of the project will involve a preliminary try-out and revision of the test situations designed to find out how an administrator would handle a particular problem. Such problem situations might include maintaining community relations, improving educational opportunities, recruiting and developing school personnel, or handling funds and facilities for school operation.

The revised test will then be administered to approximately 200 elementary school principals and other school administrators. Additional standard tests and inventories will also be given to gather information on abilities, backgrounds, and personalities. The resulting data will then be analyzed and compared with ratings of the

principals' performances made by their own superiors and with other measures of their success as administrators. The analyses will also indicate the reliability of the experimental test situations, and the end result is expected to be a week-long situational test for use in selecting educators who are likely to become successful administrators.

DANIEL E. GRIFFITHS, Professor of
Education, Teachers College, Co-
lumbia University, New York, N. Y.

Project No. 214.

Duration: 8 years.

May 1957 to May 1960.

OTHER PROBLEMS

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THE OFFICE OF EDUCATION began its Cooperative Research Program by focusing on ten major problem areas which were grouped into three general categories: (1) The conservation and development of human resources, (2) the staffing and housing of schools and colleges, and (3) the implications of our expanding technology and economy. Obviously, however, there are many other important problems in education on which research is much needed. These include such broad areas as the nature of the learning process, the curriculum, teaching methods, evaluation and so on.

Because the Cooperative Research Program is still small in relation to the vast need for research in education, it would not be possible to support any such broad coverage. However, the Office does support other projects which, although they do not fall clearly within the announced focus of the program, are obviously important and may well be related to the areas of major interest.

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Integrating the Humanities and Social Science in a Block Teaching Project

This project is an experimental revision of a part of the basic college curriculum designed to see whether or not the required subject matter can be taught in fewer sections and with less faculty time. The courses involved are world history, world literature, English composition, art, music, and speech. The proposal is to set up a block teaching project which will bring together a group of 100 students and 7 faculty members and which will cover the 6 areas of subject matter for a total of 12 hours of credit per quarter for three quarters. The number of sections would be cut from 17 to 12 and the faculty time saved would equal the work of one full-time faculty member.

At the beginning of the project there will be approximately 100 entering freshmen assigned to take the integrated courses, and an equivalent control group of 100 students will take the courses taught in the traditional way. At the end of each quarter, both groups will take both standardized and specially prepared tests for the purpose of comparison. In addition to the results of the test battery, faculty members will evaluate the experiment, and the students will also be

asked for their reactions. All of this information will be examined in determining the success of the block teaching procedure.

ARTHUR KREISMAN, Chairman, Division of Humanities, Southern Oregon College, Ashland, Oreg.

Project No. 009.

Duration: 1 year.

September 1957 to September 1958.

A Program of Education for Alaska Natives

The purpose of this study is to formulate through research a program of education appropriate for the native peoples of Alaska, both Indian and Eskimo. The desired program is one which will enable and encourage these native people to participate in the life of the territory on a self-sustaining and self-respecting basis.

The study was begun with an examination of official memoranda, study guides, and other literature pertaining to native education which are contained in the files of the Territorial Department of Education and the central office of the Alaska Native Service at Juneau. Additional information is being gathered by sampling the opinions of native adults for the purpose of identifying attitudes and aspirations held by parents concerning the education of their children. Additional data to be utilized include achievement test results of native children attending the Bureau of Indian Affairs and Territorial schools, anthropological studies of Alaskan natives, and interviews with leaders, both native and other, who are familiar with educational problems in Alaska. The study includes education on all levels—elementary, secondary, and higher.

WILLIAM K. KELLER, Head, Department of Education, University of Alaska, College, Alaska.

Project No. 011.

Duration: 2 years.

January 1957 to December 1958.

Educational Problems of Migrant Children

This project is concerned with the effects of mobility on the education of school age children of migratory farm workers. Knowledge of these efforts will lead to better understanding of the educational needs of migrant children and will stimulate interest in communities employing migrants as well as providing a reasonable basis for action by educators. The principal objectives are to determine the average years of education of migrant children, the number of different schools attended each year, the regularity of attendance, the periods of withdrawal from school, the educational achievements, and the attitudes toward education of these migrant children and also of their parents.

Information will be gathered through personal interviews with adult migrants by means of a structured interview schedule which will gather data concerning the origin of the migrant, the size of the family, the father's occupational income, and educational develop-

ment and status. It is anticipated that between 500 and 1,000 families will be interviewed at two different sites in Van Buren County, Michigan. One is an area in which migrants remain during most of the summer, and the other is an area of high mobility in which migrants stay for only a few days or weeks. Comparisons will be made of the general schooling received by the migrants and that of the permanent residents in these two localities.

JEROME G. MANIS, Associate Professor
of Sociology, Western Michigan
University, Kalamazoo, Mich.

Project No. 042.
Duration: 1 year and 7 months.
January 1957 to July 1958.

Factors Related to Educational Development and Individual Differences Among Elementary School Children

This is a longitudinal study which deals with the magnitude and nature of individual differences. Its general purpose is to increase the understanding of professional and lay people regarding children's patterns of development, particularly with regard to educational problems. An attempt will be made (1) to determine the extent to which children in a public school system show growth and learning characteristics similar to or different from children in a laboratory school situation, (2) to contribute to knowledge regarding the outcomes of education in a public school system as determined by variability in growth and variability in instruction, and (3) to contribute to knowledge concerning the best experiences for maximum learning by children of differing abilities in a typical school system.

The major portion of the data to be used has already been gathered. Six years ago the school district of the city of Ferndale, Michigan began a longitudinal testing program of children in kindergarten through eighth grade who are measured twice yearly for physical, mental, and academic growth with all measurements converted into age units. Records will be available on approximately 8,000 children in the elementary grades. In addition to testing theoretical concepts of development, statistical analyses of the data will permit contrasts of patterns of development related to such factors as sex, race, socio-economic status, class size, and instructional grouping.

WARREN A. KETCHUM, Associate Professor of Education, University of Michigan, Ann Arbor, Mich.

Project No. 096.
Duration: 1 year.
February 1957 to January 1958.

Influences of High School Social Climates on Educational and Social Development

The adolescent attending a modern high school finds himself in a social climate or "status system" which may affect his whole future. This social climate which is established by his peers can help mold the adolescent into a responsible adult and guide him toward a fruitful

career, or it can direct him to a misfitting occupation and leave him ill-equipped and poorly motivated for further education. For example, in one school the individual may attain his status by engaging in a great variety of activities, while in another his standing may be determined solely by athletic prowess or by "dating popularity." The objectives of this project are (1) To understand the nature of these social climates and their specific consequences to the students involved, and (2) to learn something about why one kind of climate exists in one school while a totally different kind develops in another. It will also be possible to learn which adolescent status systems seem to encourage desirable educational goals and then to learn how other social climates might be modified in a more positive direction.

The study is being carried on in 10 high schools in and around Chicago. These include rural, urban, and suburban locations, and the schools range in size from 95 to over 2,000 students. The data are being collected through questionnaires administered to all students in each school and interviews with all teachers. This information will be supplemented by school records, census data, and interviews with a small sample of parents. During the fall of 1957 field teams visited each school to collect the data, and in the spring of 1958 the field teams will again visit each school to gather a second round of information. In addition to statistical tabulations, the data will provide bases for more complex analyses of the social structure within the student body of each school.

JAMES S. COLEMAN, Assistant Professor of Sociology, University of Chicago, Chicago, Ill.

Project No. 120.

Duration: 2 years.

January 1957 to January 1959.

Teaching Spelling With an Automatic Mechanical Device

The first purpose of this project will be to design, construct, and test a simple and inexpensive teaching device to carry out the operations of teaching spelling. The second purpose will be to select, organize, prepare, and test materials for use in the teaching device. The proposed use of a mechanical teaching device is based on the widely accepted belief that immediate reinforcement of information—as provided by immediate knowledge of success or failure in spelling a word—results in more efficient learning. A teaching device which could be used by the individual student would permit him to receive immediate and consistent reinforcement for correct spelling, something which cannot be provided by the teacher in a class of any size. In addition, each student could proceed through the spelling materials at his own rate of speed, and the teacher would be free from the time-consuming drudgery of correcting spelling papers.

This exploratory study will involve about 100 elementary school children. The teaching devices and materials will be tried out in at least four classrooms. The students will take specially constructed and also standardized tests to evaluate the effectiveness of the experiment and these will be compared with the test scores of students studying spelling in the traditional manner. Statistical tests of significance will indicate the importance of the differences between the scores made by the experimental and control groups, and item analyses will provide a basis for revision and improvement of the materials prepared.

DOUGLAS PORTER, Instructor in Education, Harvard University, Cambridge, Mass.

Project No. 142.

Duration: 1½ years.

July 1957 to October 1958.

Measurement of the Quality of School Systems

This exploratory project stems from the observation that schools and school systems vary in terms of quality and emphasis from year to year. The purpose is to explore the nature and amount of this variation among the schools. It is assumed that the causes of such variation can be identified by statistical studies and case analyses, that some of the causes can be controlled by the local school administration, that the quality of an institution can be measured by specific studies of pupil accomplishments, and that a means of quality control can be worked out for use with schools and school systems. A major objective is to make available to local school administrators an organized body of testing and summarizing tools to be used for periodic and continuous quality control or audit.

This study was begun by selecting a sample of 104 school districts representative of the 1,700 districts in New York State. Superintendents have been asked to identify critical problems which have arisen recently and which relate in some way to the quality of the school. Cumulative records of approximately 200 tenth grade pupils are being reviewed and analyzed to find out the kinds of evaluative data available. Information will also be gathered on the educational potential and achievement levels of pupils in the sample district together with socio-economic and other data about the communities involved. New tests will be developed where needed in order to achieve broader information, greater uniformity, and more helpful predictive data.

DONALD H. ROES, Assistant Commissioner, New York State Education Department, Albany, N. Y.

Project No. 148.

Duration: 1½ years.

February 1957 to April 1958.

Use of Supervised Correspondence Study To Relieve Teacher Shortage

Many high schools are finding it increasingly difficult to obtain qualified teachers, especially in the areas of science and mathematics. One solution being tried is the use of supervised correspondence study in courses for which there are no qualified teachers available. The purposes of this research are: (1) To find out how satisfactory supervised correspondence study is as a method of instruction, (2) to identify administrative problems and desirable solutions connected with the use of this method, (3) to find out how satisfactory supervised correspondence study is from the student's viewpoint, and (4) to obtain whatever evidence may be available of the success in college courses of students who have studied the subject by correspondence on the high school level.

Several hundred students who have been enrolled in supervised correspondence courses will provide information about whether or not they completed their courses, how well they liked this method of study, what subsequent success they met with in the field studied, and what problems they encountered in studying by correspondence. In addition, the principals of numerous high schools in which supervised correspondence study is being offered will be asked to supply information about why they are offering this type of study, how widely it is being used by students, what administrative problems are involved, and what evidence they have regarding the educational merit of this method of learning.

**BLAKE S. ROOT, Assistant Dean, School
of Education, George Washington
University, Washington, D. C.**

**Project No. 221.
Duration: 9 months.
June 1957 to March 1958.**

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127	Mentally Retarded.....	19	192	Mentally Retarded.....	32
139	Mentally Retarded.....	19	214	Staffing	51
142	Other Problems.....	56	221	Other Problems.....	58
144	Mentally Retarded.....	20	247	Retention	44

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