Sixty-eight references selected from Exceptional Child Education Abstracts are included in the bibliography on research dealing with the educable mentally retarded. The bibliography is one in a series of over 50 similar listings related to handicapped and gifted children. For each research study, bibliographic data, availability information, indexing and retrieval descriptors, and an abstract are included. Author and subject indexes are provided. (KW)
EDUCABLE MENTALLY HANDICAPPED—RESEARCH
A Selective Bibliography
February 1971

CEC Information Center on Exceptional Children
The Council for Exceptional Children
Jefferson Plaza, Suite 900
1411 S. Jefferson Davis Highway
Arlington, Virginia 22202

This bibliography is a product of the Information Processing Unit, CEC-ERIC Information Center on Exceptional Children.

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Five experiments were conducted in an attempt to isolate specific learning patterns in children of varying degrees of mental retardation and to contribute to the knowledge of the phylegenetic development of intelligence. Factors studied were those known to influence learning in both children and adults, such as degree of reinforcement (verbal or physical), delay of reward, shift of reinforcement, intrasessional interval, and reminiscence. The subjects were male and female institutionalized retarded children aged 8 to 18, and classified as mildly, moderately, or severely retarded. Groups varied in size, and were evaluated in the completion of motor or verbal tasks (pursuit motor, pegboard, memory drum tasks). Conclusions drawn from the series of experiments were as follows: (1) males generally achieve a performance level significantly superior to females. (2) different reinforcement levels lead to significant differentiation in performance, (3) delay of reward does not have a significant effect on the performance of retardates when a sensory reward (such as light) is used, (4) mild retardates perform at a level significantly superior to moderate retardates, and both groups are superior to severe retardates, (5) the expected elation and depression as a result of a shift in reinforcement do not appear to occur in retardates, although these subjects do show an interest effect or improvement in performance following any shift in reinforcement, (6) the variability of behavior does not significantly affect the performance of retardates when intervals of 10 seconds or less are used. (7) retardates do not show a revival effect in verbal learning, but there is some indication that the reminiscence does occur in motor learning, and (8) age, IQ, and mental age cannot be used as accurate predictors of performance on either verbal or motor tasks. Data are presented in 17 tables and 12 figures. A bibliography lists 103 items. (DF)
The Development and Evaluation of Three Types of Physical Education Programs for Educable Mentally Retarded Boys. Final Report.

Boston Univ., Massachusetts, School Of Educ.

EDRS mf,hc

Descriptors: exceptional child research; mentally handicapped; physical education; educable mentally handicapped; psychomotor skills; athletics; males; adolescence; physical fitness; social adjustment; Latchaw Motor Achievement Test; AAHPER Youth Fitness Battery; Corvell Social Adjustment Index

Three physical education programs, skill oriented, play oriented, and free-play oriented, were developed. These programs were examined initially by seven experts and then subjected to a pilot study. The revised programs were taught by research assistants to six experimental groups which included 82 boys at two state schools for the mentally retarded. The study period was 39 class hours (13 weeks) in duration exclusive of time taken for purposes of evaluation. The programs were evaluated on the basis of pretests and posttests which ascertained achievement levels in items relating to physical fitness, motor ability, and social adjustment. Major conclusions were that the skill oriented groups at both schools indicated significant improvement in a greater number of test items than did the others, (2) that these same two groups indicated a more uniform improvement in motor ability items, (3) that the skill oriented group at one school indicated significantly better performances than the other groups at that school in the pull-ups and volleyball wall volley, (4) that both the skill oriented and free-play group at this school were significantly better than the play oriented group at the basketball wall pass. A major recommendation is that a skill oriented physical education program, similar to the one developed in this study, be utilized for educable mentally retarded boys. (UM)

ABSTRACT 10329

EC 01 0329  ED 014 824
Publ. Date 18 Nov 66  206p.
Corter, Harold N.; McKinney, James D.
North Carolina St. Univ., Raleigh
OEG-32-43-0530-5028
EDRS mf,hc

Descriptors: exceptional child research; mentally handicapped; cognitive processes; achievement; educable mentally handicapped; concept formation; cognitive training; academic achievement; teaching; cognitive tests; concept teaching; curriculum guides; intellectual development; development; intelligence tests; learning abilities; productivity; Stanford Binet Intelligence Scale; Wechsler Intelligence Scale for Children; Illinois Test of Psycholinguistic Abilities; California Achievement Test; Conner McDonald Similarities Differences Test

The major purpose of this research was to determine whether training in specific cognitive processes is effective in increasing the cognitive functioning of retarded children. In phase 1 of the project, 51 educable retarded and 18 normal subjects received a 20-day program in similarities-differences concept formation and were compared with 42 educable retarded and 24 normal control subjects. Change scores for the experimental and control groups on 30 test variables, including concept formation, reasoning, intelligence, and achievement, were compared by t tests and a multivariate analysis of variance. The hypothesis concerning improvement in concept formation was strongly sustained. Also gains were observed in related areas of reasoning and, to a lesser extent, in verbal areas. Hypotheses of change in general intelligence and achievement were not sustained when similarities-differences effects were removed, although a general trend in favor of the experimental groups was noted. In phase 2, 16 educable retarded and 16 bright normal subjects received a 20-day program in cognitive flexibility and were compared to 16 control subjects in each group by a X 2 factorial design. Change was measured by a flexibility test battery composed of five subtests and the Stanford-Binet Intelligence Scale. Significant improvement in the predicted direction was found for both test variables. In phase 3, a test and training program in the area of productively-responsiveness was developed to the tryout stage. A perplexes include day by day plans for (1) the similarities-differences concept formation training program, (2) the cognitive flexibility training program, and (3) a teachers manual of the productivitiesensitive training program. The factor analysis of the flexibility tests and the cognitive training experimental test battery arc included. A bibliography cites 44 items. (AA)

ABSTRACT 10416

EC 01 0416  ED 014 190
Publ. Date Aug 67  165p.
Higgins, Connell; Rusch, Reuben R.
Albany Public Schools, New York
OEG-446-068149-1552
EDRS mf,hc

Descriptors: exceptional child research; mentally handicapped; behavior; cognitive processes; educable mentally handicapped; social change; interpersonal competence; training techniques; instructional media; logical thinking

To increase the young educable mental retardate's knowledge of appropriate social responses, a training program was designed utilizing the practical syllogism. Subject groups, aged 3-9 to 10-3, included (1) 12 educable mentally retardates with a mean IQ of 66, divided into control and experimental groups of 16 each, (2) 16 average children with IQ's of 90 to 110 or in the 50th to 60th percentile on group readiness and ability tests, and (3) 16 above average children with IQ's of 125 to 145 or above the 98th percentile on the same group test. Both the retarded groups were given 120 training incidents using doll play, live models, puppets, and film slides. Training for the experimental (G) group was in responses to six common types of
social situations as such as asking for assistance or responding to disapproval. Training for the control (C) group was in verbal and problem-solving skills. The average group received no training. Pretests and posttests measured logic and social behavior. Results indicated that (1) after training the E-group was significantly higher than the C-group on logical thinking (p less than .05) and social behavior (p less than .0005), (2) although the C-group scored lower than the E-group after training, it scored significantly higher after training than before on logical thinking (p less than .05) and social behavior (p less than .01), (3) before training the retarded groups scored significantly lower than the average group on logical (p equals .001) and social behavior (p equals .0005), and (4) after training, retarded children improved in logical thinking and knowledge of social behavior (p less than .0005), social behavior (p less than .0005), and (2) (3) before training the E-group scored significantly lower than the average group on logic (p less than .005) but higher on social behavior (p less than .05). Results thus confirmed the hypotheses that (1) retarded children have less skill in logical thinking and knowledge of social behavior than average children, and (2) with training, retarded children can improve in logical thinking and may reach or surpass the level of average children in knowledge of social behavior in specific, commonly occurring situations. (AAVY)

ABSTRACT 10503
EC 01 0503 ED 022 270
Publ. Date Nov 65 139p.
Katz, Elias
San Francisco Aid Retarded Children, California Vocational Rehabilitation Administration (DHEW), Washington, D. C.
EDRS mf,he OEG-32-23-1020-6002 BR-5-0961

Descriptors: exceptional child research; mentally handicapped; recreation; mathematics; teaching methods; children; test reliability; test results; motivation; instructional materials; behavior change; group behavior; attention control; educable mentally handicapped; group tests; educational games.

Group games were used to teach basic number concepts to educable mentally retarded children. The number concepts were integral but incidental to the intentional teaching of game skills. Subjects were 21 boys and 19 girls from eight classes, free of gross defects (means were IQ equals 66.22, age equals 7.9, mental age equals 5.11), and matched in pairs for chronological age, mental age, IQ, and scores on pre-experimental tests of number concepts, game skills, preference for social play, and voluntary social participation in school. The experimental group of 20 participants trained 100 minutes a week in a 9-month game program; the control group, also 20, attended a traditional math program; and both were tested at the middle and end of this period. The experimental group scored higher on both mid-experimental (p less than .003) and post-experimental (p less than .0003) measures on the Number Knowledge Test (test reliability equals 98% on Form A and 93% on Form B), higher on the post-experimental measure (p less than .003) on the spontaneous use of quantitative terms, and made fewer errors on both the mid-experimental (p less than .0005) and post-experimental (p less than .0005) tests on General Game Skills (test reliability equals 91%). Game and modeling procedures and attention-directing variables (use of excitement and rewards) are suggested as teaching techniques for retarded children, and a handbook for teaching game skills is included. (Author/SN)

ABSTRACT 10826
EC 01 0826 ED 025 885
Publ. Date Sep 68 136p.
Bonfield, John R.
Pennsylvania State University, University Park Office Of Education (DHEW), Washington, D. C., Bureau Of Research EDRS mf,he OEG-4-082082-3593(032) BR-8-2082
A study of institutionalized educable mentally handicapped children (EMR's aged 6-7 to 12-6) was designed to evaluate the use of subtest combinations and learning tasks as predictors of achievement compared to single individual and group tests. Fifty-one subjects received a pretest battery of six individual tests, one group test, three learning tasks, and the criterion achievement measures of three subtests from the Wide Range Achievement Tests (WRAT) and the New York Achievement Tests (NYAT). After 7 months the learning tests, WRAT, and NYAT were readministered. Results indicated that overall achievement of young institutionalized EMR's will be predicted with higher validity both by a combination of the Auditory-Vocal Association and Auditory-Vocal subtests from the Illinois Tests of Psycholinguistic Abilities, the Picture Vocabulary subtest from the Pictorial Test of Intelligence, and the Number Facility and Perceptual Speed subtests from the Primary Mental Abilities Test (correlation coefficient equals .779), and by a regression equation developed from a multiple regression analysis of selected subtests minus by any individual or group test. The better predictors of achievement for the oldest group were subtests which can be administered to groups; individual administered tests were better predictors at younger ages. (R.P)

ABSTRACT 10844
EC 01 0844 ED 002 762
Pub. Date 58 172p.
Johnson, G. Orville Comparative Analysis of Some Learning Characteristics in Mentally Retarded and Normal Children of the Same Mental Age. Syracuse University, New York Office Of Education (DHEW), Washington, D. C. EDRS mf,he OEC-SAE-6416 CRP-091

Descriptors: exceptional child research; mentally handicapped; learning; average students; comparative analysis; comparative testing; elementary grades; children; learning characteristics

Information was obtained concerning basic learning characteristics of retarded children using, insofar as possible, materials with which they have had little or no previous familiarity. Subjects were 30 mentally retarded and an equal number of normal children ranging from 8 to 9 years in mental age. Each subject was given standardized lists of nonsense syllables; tests involving cancellation of selected numbers in a series of six-place numbers, groups, and objects; and picture, and word-problem reasoning. The data were analyzed through standard statistical analyses of differences between groups, and individual subjects. Data sheets were analyzed and charted to note individual similarities and differences. It was concluded that the learning rate of mentally handicapped children is at least equal to that of normal children of the same age or development level. Thus a group of mentally handicapped children will be able to learn specified skills at that developmental level at least equally well and equally rapidly. However, it will take the mentally handicapped group approximately 1 1/2 years to develop as much intellectually as normal children develop in a year. Since the present series of studies was largely theoretical in nature, a parallel series concerned with tasks involving academic learning should follow. (GC)

ABSTRACT 11290
EC 01 1290 ED 023-239
Pub. Date 67 233p.
Edgerton, Robert B. The Clock of Competence, Stigma in the Lives of the Mentally Retarded. EDRS not available

University Of California Press, Berkeley, California 94720 (33,73). Descriptors: exceptional child research; mentally handicapped; adjustment (to environment); vocational adjustment; adults; emotional adjustment; personal adjustment; social adjustment; adjustment problems; marital status; self concept; self esteem; role conflict; family relationships; employer employee relationship; friendship

The research staff contacted 53 mentally handicapped patients (mean age 34.3, mean IQ 63.3; 28 women, 25 men) discharged from a state hospital training and rehabilitation program. The 48 who cooperated were interviewed and studied for the ways in which they managed their lives and perceived themselves. No difference was found between the success and community adjustment those above or below an IQ of 70. None of those studied would admit to mental retardation, and all had built stories to excuse their mental and social incompetence and their hospital stay, and to maintain their self esteem. Their sterilization was a major factor in the inadequate self concept but not in marital adjustment itself; sexual behavior did not differ from that of the general population. Nine of the 20 men were married, two to normal wives whom they supported, and 20 of the 28 women were married, 16 to normal men. Benefactors were found to be present and necessary in all cases to assist the ex-patients in coping with life and basic needs, and generally aided them to pass as normal. Motivation of benefactors always involved altruistic reasons and usually provided the direction. 12 were superiors in sanitariums or restaurants who regularly recruited those discharged from the state hospital; 13 were spouses or lovers, most of whom enjoyed a dominant relationship; 10 were close relatives; and 10 were neighbors or landladies. (SN)

ABSTRACT 11345
EC 01 1345 ED 003 276
Pub. Date Jan 64 266p.
Peck, John R. And Others. Success of Young Adult Male Retarded.

Texas University, Austin Office Of Education (DHEW), Washington, D. C. EDRS mf,he OEC-SA-7146 CRP-175

Descriptors: exceptional child research; mentally handicapped; achievement; tests; educable mentally handicapped; predictive validity; student characteristics; student motivation; academic achievement; comparative analysis; factor analysis; youth programs; personality; training; males; young adults; questionnaires

The habitability of educable mentally retarded (EMR) youth was studied to determine the effectiveness of predictor variables. Tests and interviews by questionnaires were made on five groups of youths with 25 in each group. Data were analyzed to determine the relative weights of each variable and measure. Differences among the experimental groups were tested and comparisons made with the control groups. Examinations were the following: personality aspects were interrelated; measures of personality and cognitive attributes were valid predictors of success; and EMR youths participating in a training program achieved and were more successful than those who had little or no training. Recommendations were made to modify the battery of predictor instruments in screening use and explore the relationship between character development and success. (RS)

ABSTRACT 11346
EC 01 1346 ED 002 804

Descriptors: exceptional child research; mentally handicapped; family; sociological unit; parent attitudes; mental retardation; children; parent child relationship; parent responsibility; child rearing; family problems; factor analysis; motivation techniques; rewards; parent education; interviews; education; mentally handicapped; trainable mentally handicapped; parent school relationship; self evaluation; attitudes

Positive and negative aspects of rearing mental retardates were identified and measured during this study by examinations of parental attitudes and how these attitudes often affect the daily behavior and learning readiness of children while in school. Behavioral factors of the individual child were analyzed and compared with statistics covering family
status and stability, and both considera-
tions were investigated as relative con-
tributors to parental attitude. The sam-
ple was drawn from parents of 400
mentally retarded children, varying in
mental ability and family-school envi-
ronments and representing a wide range
of social, cultural, and educational
factors. The data were gathered through
direct interviews with the parents. Find-
ings indicated that most pertinent in an
index of family acceptance or integra-
tion were those qualities in the parents
themselves related to high self esteem,
low child rearing anxiety, low sex anx-
ity, high husband-wife agreement on
child rearing techniques, low feelings of
self blame, and high affectional inter-
change between the child and both par-
ents. Further research was indicated in
this area and in the preparation and per-
sent-school interaction and cooperation.(JH)

ABSTRACT 11594
EC 01 1594 ED 021 948
Publ. Date Dec. 67 164p.
Hodges. Walter L. And Others
The Development and Evaluation of a
Diagnostically Based Curriculum for
Preschool Physically-Handicapped
Indiana University. Bloomington. School of Education
EDRS mt.4c
OEQ-32-042010-1011
BR-5 0350
Descriptors: exceptional child research; disadvantaged youth; preschool children; adjustment to environment; achievement; mentally handicapped; language development; motor development; social development; intellectual development; educable mentally handicapped; slow learners; culturally disadvantaged; preschool programs; kindergarten children; educational diagnosis; curriculum; curriculum development; curriculum evaluation; cognitive processes; psychological patterns
A study investigated the effectiveness of a 1-year diagnostic preschool curriculum in improving regular school adjustment and achievement of I+I2 psycho-
critically deprived children (age 5, IQ’s 53 to 85). In each of the 3 years, approximately 15 children were placed int- an experimental preschool, a kindergarten control, or an at-home control group. Course procedures were designed to remedy specifically diagnosed deficits in the areas of intelligence, language, motor, and social development. By the end of the treatment year, the experimental groups ranked significantly higher than the contrast groups in all of the areas measured. Follow-up study through the second grade for the 1st year group and through the first grade for the 2nd year group indicated that the groups no longer differed significantly in any area except that of social development, which continued to be higher for the experimental groups. School academic achievement appeared not to be related to overall IQ change, but rather to specific intellectual processes that con-
tributed to the IQ change; that is, if children made gains on items related to memory, vocabulary, and motor develop-
ment, the prognosis for their first grade academic success was better than if they made gains on items related to concept formation and abstract reasoning. (Author/ID)

ABSTRACT 11662
EC 01 1662 ED 003 176
Publ. Date Feb 64 370p.
Blackman. Leonard S. And Others
The Development and Evaluation of a
Curriculum for Educable Mental Re-
 tardates Utilizing Self-Instructor De-
vices for Teaching Machines.
Edward R. Johnstone Training And Research Center
Office Of Education (DHEW). Washington. D.C. EDRS mt.4c
OEQ-7-28-073 NDEA-VII A368
Descriptors: exceptional child research; mentally handicapped; curriculum; program instructions; programmed materials; instructional technology; skill development; adolescents; autoinstructional aids; curriculum development; curricu-
um evaluation; educable mentally handicapped; program evaluation; instruc-
tional programs; teaching machines
An evaluation of self instructional de-
\nelice in the classroom and the related
psychological research is presented. Part
1 covers phases of machine and program development, a review of relevant litera-
ture, and the major experiment. Educa-
ble mentally retarded 14-year-olds were
selected and divided into two groups.
The experimental group consisted of 19
persons and the control group of 17.
Both groups were tested at the beginning
and end of the year. The experimental
group received programmed instruction,
and the control group was taught conven-
tionally. An analysis of the data showed
negative results in the effectiveness of
machine instruction skill development with the exception of one arithmetic
measure. Further research was encour-
gaged to study the psychological proper-
ties of school tasks. Part 2 includes
theoretical statements and literature sur-
veys. (RS)

ABSTRACT 11918
EC 01 1918 ED N.A.
Publ. Date 66 210p.
Clausen, Johs.
Abilities Structure and Subgroups in
Mental Retardation.
EDRS not available
Spartan Books. 452 Park Avenue South.
New York. New York 10012 ($10.00).
Descriptors: exceptional child research; mentally handicapped; ability identification; educable mentally handicapped; clinical diagnosis; testing; lateral dominance; auditory perception; visual perception; psychomotor skills; auditory perception; kinesthetic perception; intel-
ligence; etiology; statistical analysis; perceptual development; motor develop-
ment; test interpretation; neurological defects
To test the hypothesis that the mentally
retarded represent a diversity of etio-
\nelical problems, and that they may be
differentiated into subgroups on the ba-
sis of psychological functions, 276 retar-
dates (191 boys and 85 girls), ages 8 to
12, were tested and compared to 112
normal boys, ages 8 to 10. Consideration
was given to whether different functions
have different rates of development, and
whether development in retardates is
characterized by a delayed progress up
to a normal level or by an early termina-
tion of progress. A battery of 23 medi-
cal, neurological, and electroence-
phalographic exams yielded 50 vari-
able. Similarities of profiles for the retar-
dates indicated a general structure of
abilities; information suggested that
there is more justification for calling
the subjects permanently deficient rather
than retarded. All retardates generally
had group mean scores below norms for
sensory measures, and were lower in percep-
tion and complex mental functions. Although
there was some improvement with age, retard-
ed subjects were impaired in most motor
performances; simple motor tasks were
more impaired than complex ones. No
significant differences were found be-
tween etiological groups. (Rj)
ABSTRACT 12024
EC 01 2024  ED 030 991
Publ. Date (68)  46p.
Brown, Louis F.; Andrews, James B.
Iowa University, Iowa City, University Hospital School Office Of Education (DHEW), Washington, D. C.
EDRS mf.
OEC 46-086464-1750

Descriptors: exceptional child research; mentally handicapped; disadvantaged youth; recreational programs; student evaluation; outdoor education; summer programs; camping; science instruction; homemaking skills; educable mentally handicapped; physical education; self concept; sociometric techniques; personal adjustment; tests

Fourteen culturally deprived educable mentally handicapped children (their IQ's ranging from 52 to 86) participated in a 7-week project to determine the effectiveness of correlating classroom instruction with camping and outdoor educational activities. The subjects were first tested for current knowledge and attitudes about science, recreational camping, and themselves; they also received instruction in homemaking, science, and camping. The main subjects practiced on campsite what they had learned in the classroom. Finally they were evaluated by the same instruments as earlier and were given opportunity to react to the camping experience. It was concluded that the activities offer will not replace those of physical education programs and that the experiences gained and the subjects' ease in verbalizing showed the development of more positive attitudes about science, camping, and themselves.

ABSTRACT 12034
EC 01 2034  ED 003 087
Publ. Date 65  286p.
Leum, David E.
The Effect of Institutional Living on the Values of Mentally Handicapped, Delinquent, Adolescent Boys.
Syracuse University, New York, Research Institute Office Of Education (DHEW), Washington, D. C.
EDRS mf.
OEC-5-10-400
BR-5-8117

Descriptors: exceptional child research; mentally handicapped; delinquent; education; personal and impersonal values; environmental influences; values; educable mentally handicapped; delinquent behavior; institutional environment; Negro youth; comparative analysis; social values; males; adolescents; social relations.

The social interaction in an institution was studied to determine its influence on value-belief preferences of members of a specific group. A sample of about 58 mentally handicapped boys ranging in age from 12 to 16 years was selected. The selection was based on their mental retardation and adjustment problems, their knowledge of natural science also showed a significant gain. No significant changes occurred in group status, although there was some shifting of children in the middle of the sociometric region. Recreational activity preferences were altered, although not significantly in favor of those offered.

ABSTRACT 12033
EC 01 2033  ED 003 074
Publ. Date (65)  127p.
Myers, Richard K.; Stevens, Godfrey D.
The Influence of Verbal Statements Upon the Performance of Mentally Retarded Children.
Beaver County Public Schools, Pennsylvania Office Of Education (DHEW), Washington, D. C.
EDRS mf.
CRP-S-162

Descriptors: exceptional child research; mentally handicapped; teaching methods; educable mentally handicapped; performance factors; task performance; anxiety; educational experiences; verbal communication; instructional improvement; discussion (teaching technique); measurement instruments

Influence of performance expectations verbally expressed by an authority figure and the manifest anxiety of the subject: on simple and complex learning tasks was studied in relation to mentally retarded children. The hypotheses tested were that there would be no difference in performance on the experimental tasks as a function of verbal statements of performance expectations, manifest anxiety level of the subject, sex of the subject, complexity of the tasks, and interactions of the variables. Subjects were randomly assigned to 12 experimental groups which were tested using tasks representing different types of learning and degrees of difficulty. The conclusions reached were that effects of the verbally expressed expectations on the performance of the retarded child on experimental tasks may be related to the sex of the child, and that further evidence suggested that anxiety level may also be a factor. Further investigations of the variables employing improved designs and procedures were encouraged.

ABSTRACT 20156
EC 02 0156  ED 031 822
Publ. Date Aug 66  436p.
Cratty, Bryant J.
Perceptual-Motor Attributes of Mentally Retarded Youth.
Mental Retardation Services Board Of Los Angeles County, California EDRS mf.

Descriptors: exceptional child research; mentally handicapped; perceptual motor coordination; testing; evaluation methods; trainable mentally handicapped; educable mentally handicapped; normal; mongolism; body image; physical activities; predictive ability (testing); self-reliability; sex differences; age differences; racial differences;
To evaluate six perceptual-motor attributes of trainable and educable mentally retarded children, a battery of tests was constructed which included body perception, gross agility, balance, locomotor ability, throwing, and tracking. Eighty-two subjects provided reliability data, and their scorers, with those of 120 additional subjects, provided normative data. The educable mentally retarded (EMR) and educationally handicapped (EDR) groups were significantly superior in all tests to the trainable mentally retarded and Down's Syndrome groups, especially while vision and movement were paired. The Down's Syndrome group evidenced the most marked perceptual-motor deficiencies. EHM children had poorer color and walking patterns than the EMR's, and these two groups functioned best during late childhood and early adolescence. Children with Down's Syndrome made continual improvement with increased age in tracking ability, gross agility, and in body-part perception. The majority of all subjects had difficulty making left-right identifications relative to their bodies. The correlation between IQ's and total battery scores (based on 37 IQ's) was .63 while total score correlation was .54. (RJ)

ABSTRACT 20157
EC 02 0157 Publ Date 68 ED 031 923
Cawley, John F.
Arithmetic Problem Solving: A Program Demonstration by Teachers of the Retarded, Connecticut University, Storrs, School of Education EDRS $4.80
OEG 32-169270-5099 BR-5-0309
Descriptors: exceptional child research; mentally handicapped; mathematics; testing; teaching methods; educable mentally handicapped; item analysis; arithmetic curriculum; test construction; test reliability; test validity; intelligence factors; academic achievement

The purposes of the study were to investigate the effects of the combination of a trained teacher and a planned program on the problem-solving abilities of mentally handicapped children, to develop measures of verbal problem solving (VPS) and arithmetic understanding (PUT), and to analyze the interrelationships among primary mental abilities and various combinations of achievement and test scores. A teacher training workshop presented for 16 evenings focused on the organization and use of 86 lessons in nine units for 18 weeks. Teacher methods emphasized understanding through the solution of problems which originated in the classroom. Trained teachers used the prepared program with 161 retarded children; untrained teachers used the program with 58 retarded children; and there were 132 retarded and 89 average-age controls. The results showed that the VPS and the PUT appear to be stable and consistent measures of the arithmetic performance of mentally handicapped children, and that the teacher training program and the prepared program of arithmetic curriculum were effective. Measures of primary mental abilities and academic achievement were highly interrelated. The study supports the contention that problem solving and concept development among the mentally handicapped can be influenced by instruction. (LE)

ABSTRACT 20163
EC 02 0163 Publ Date Feb 69 ED 031 831
Calfee, Robert C.
Short-Term Retention in Normal and Retarded Children, Final Report, Purdue University, Lafayette, Indiana, Office Of Education, Office Of Education (DHEW), Washington, D. C. EDRS $4.80
OEC-5-10-374 TR-75
Descriptors: exceptional child research; mentally handicapped; learning characteristics; recall (psychological); recognition; memory; research reviews (publications); retention; age differences; intelligence differences; cognitive processes

Studies of recall and recognition short-term memory (STM) were reviewed, and a series of studies of serial recognition memory of normal and retarded children were described. In experiments using a recall procedure there were decrements in initial performance level with decreasing age and IQ but less evidence that forgetting occurred at a faster rate in younger and less intelligent children. Recognition memory was found to be relatively constant over a wide range of age and IQ. Evidence was presented that ability to encode and organize stimulus material depended on age and IQ. Retarded children were especially poor at adopting efficient encoding strategies and seemed relatively incapable of making use of the organizational structure of a list to facilitate storage and recall. Detailed analyses showed considerable response bias in children's recognition behavior, consistent primacy and recency effects when bias was taken into account, and evidence that memory for individual items was not all-or-none. Except for response biases and forgetting rate, recognition memory processes of normal and retarded children appeared to be identical to those of adults. (Author/RJ)

ABSTRACT 20181
EC 02 0181 Publ Date 69 ED 031 849
Levine, S. Joseph
Empirical Analysis of Instructional Materials Evaluation in Special Education, Michigan State University, East Lansing, Regional Instructional Materials Center For Handicapped Children And Youth Office Of Education (DHEW), Washington, D. C. EDRS $4.80
Descriptors: exceptional child research; instructional materials; evaluation criteria; teacher role; evaluation methods; records (forms); mentally handicapped; educable mentally handicapped; equipment evaluation

To investigate the potentialities of teachers as evaluators of instructional materials and to develop an inclusive form to cover all of the necessary evaluative aspects of a material and its use, 16 teachers of the educable retarded participated in an institute. Four member teams played a game in which they studied materials and identified evaluative criteria. An evaluation form was devised, used at the institute and in the classroom, and revised. Checklists were largely eliminated and space left for the evaluator to enter pertinent information. Conclusions were that given the structured and motivation of a game-like atmosphere, teachers can provide a set of criteria meaningful to them; there seemed to be a good deal of agreement on the criteria; and a teacher developed instrument can be effectively used. Directions for playing the game, charts of the development of the criteria, the evaluation forms, an evaluator's guide, and a sheet for evaluating the evaluations are provided. (RJ)

ABSTRACT 20188
EC 02 0186 Publ Date May 69 ED 031 854
Gruen, Gerald E.; O'Donnell, Sheila A.
Success and Failure as Determinants of Goal-Setting Behavior in Mentally Retarded and Normal Children, Final Report, Purdue University, Lafayette, Indiana, Office Of Education, Office Of Education (DHEW), Washington, D. C.; Bureau Of Research EDRS $4.80
OEG-0-9-070213-3699 BR-7-2-213
Descriptors: exceptional child research; mentally handicapped; goal orientation; reinforcement; task performance; success factors; failure factors; prediction; educable mentally handicapped; self concept; special classes

To test the hypothesis that experimentally-induced success and failure experiences would differentially affect mentally retarded and normal children, 24 educable mentally retarded children and their matched mental age (MA) and chronological age (CA) controls were given six trials on a verbal 5-item vocabulary task. The subjects (Ss) were given, in counter-balanced design, three success trials (simple words) and three failure trials (difficult words). All Ss gave a probability of performance estimate for each trial. The retarded Ss and their MA controls set higher estimates across trials than the older CA controls. The retarded Ss' estimates were initially closer to the true scores than the CA controls. Results were interpreted as being contrary to the hypothesis that retardates have had a greater history of
failure experiences resulting in lower generalized expectancy of success. (Author/RI)

ABSTRACT 20198
EC 02 01298 ED 031 856 Publ. Date Jan 31 Mar 69 75p. Sommers, Ronald K.
Monroe County Schools, Norristown, Pennsylvania
Office Of Education (DHEW), Washington, D.C., Bureau Of Research
EDRS m.f.c.
OEC-17-07342-3544 BR-7-0432

Descriptors: exceptional child research; mentally handicapped; articulation (speech); speech therapy; speech handicapped; educable mentally handicapped; speech evaluation; speech tests; speech improvement

To determine the effectiveness of group articulation therapy, 180 educable retarded children in special classes (average age 9, average IQ 70), all of whom had articulation problems, were rated on the Carter/Buck Prognostic Speech Test and a picture version of McDonald's open test of articulation. Subjects were then randomly assigned to one of three groups: no therapy, therapy for 30 minutes once a week for 9 months, or therapy for 30 minutes four times weekly for 9 months. Posttests were administered immediately after 9 months and again 3 months later. Results on the picture deep test indicated that subjects who received therapy four times weekly improved significantly, whereas subjects who had therapy once a week did not. On the picture articulation test, however, no significant differences were found between experimental groups. At the time of the second posttesting, the picture articulation improvements by the subjects who had therapy four times weekly were maintained as were the respective positions of subjects in the three groups. Significant relationships were also found between age and IQ and articulation improvement during therapy. (JD) (not available in hardcopy due to marginal legibility of original document)

ABSTRACT 20480
EC 02 04490 ED 032 683 Publ. Date Jul 69 57p. Bulgarella, Rosaria A.
Michigan State University, East Lansing
Office Of Education (DHEW), Washington, D.C., National Center For Education Research And Development
EDRS m.f.c.
OECD-0-80635-316-6 (032) BR-8-0054

Descriptors: exceptional child research; mentally handicapped; conservation (concept); training; cognitive development; concept formation; educable mentally handicapped; transfer of training; testing; intelligence level; learning processes

Fifty educable retarded children who were determined to be nonconservers by means of three conservation pretests (discontinuous quantity, correspondence, and continuous quantity) were randomly assigned to one of five treatment groups (discontinuous quantity training, correspondence training, continuous quantity training, control, and control language groups). The four hypotheses were as follow: it is possible to train retardates to conserve quantity, one form of conservation training transfers to other forms of conservation; performance on conservation tests is related to mental age; and discontinuous quantity conservation appears before continuous quantity conservation. In general, the results of the posttests were consistent with the four hypotheses. Testing and training procedures are appended. (Author)

ABSTRACT 20592
Bureau Of Indian Affairs, Washington, D.C., Division Of Education
EDRS m.f.c.

Descriptors: exceptional child research; tests; identification; teaching methods; mentally handicapped; pilot projects; teacher aides; class activities; American Indians; psychological testing; rural environment; medical case histories; English (second language); aptitude tests; small group instruction; teacher supervision; instructional programs; language ability; Navajo; intellectual development; educationally disadvantaged; clinical diagnosis; referral; screening tests; individual characteristics; program administration.

A pilot project in which 47 mentally handicapped Navajo children were enrolled in special classes is described. These children were selected from boarding schools by use of a teacher referral form. The project was divided into five phases: screening of children to determine those who were mentally retarded, preparing individual behavioral profiles on each of the selected children, medical and paramedical examining of the referral group, staffing the children to determine the nature of handicapping conditions, and teacher supervision, special class organizing, and the instructional program. Particular emphasis is given to descriptions of the use and results of psychological tests used in the project. A discussion of teaching English as a second language to Navajo children is included in an attached appendix. (ES)

ABSTRACT 20593
EC 02 05093 ED 015 561 Publ. Date Aug 63 44p. Karnes, Merle B. And Others
The Effects Of Typing Instruction On The Personality And Achievement Of Educable Mentally Handicapped Children.
Champaign Community Unit 4 School District, Illinois
EDRS m.f.c.

Descriptors: mentally handicapped; exceptional child research; achievement; personality; academic achievement; educable mentally handicapped; emotional adjustment; eye hand coordination; personality development; reinforcement; skill development; social adjustment; transfer of training; typewriting; visualization; visual learning

To study whether teaching typing to educable mentally handicapped students would result in improved academic work, greater visualization skills, and better social-emotional adjustment, half of a group of 14 matched pairs of children (10 to 13 years old, IQ's between 50 and 80) were given 2 to 3 years of typing instruction. Twelve were given to all subjects before and after the experimental period to measure educational achievement, personality and social development, visual motor abilities, and auditory abilities. Only two of the seven measures of academic achievement significantly favored the experimental group (p equals .05). The differentiation of skills between the two groups did not approach significance (p equals .05), and this hypothesis was rejected. Only two out of the seven tests of social-emotional adjustment significantly favored the experimental group (p equals .05). The major implications are that transfer of learning from the use of the typewriter to other skills must be taught, and that some students showed potential for acquiring typing as a salable skill. Suggestions for further study are included. (R5)

ABSTRACT 20628
EC 02 0652 ED 002 781 Publ. Date 69 588p. Feiler, Louis A.; Hebeler, Jean
Syracuse University, New York, New York Research Institute
Office Of Education (DHEW), Washington, D.C.
EDRS m.f.c.
OEC-SAE-6408 CRP-018-VOL.1

Descriptors: exceptional child research; mentally handicapped; counseling; attitudes; family (sociological unit); educable mentally handicapped; parent attitudes; counseling programs; personality change; child rearing; changing attitudes; group counseling; parent counseling; personal adjustment

The attitudes of parents of educable mentally retarded children were studied, and the effectiveness of altering parental attitudes through time sequences of counseling was assessed. The project studied 60 fathers and 60 mothers who
were divided into four groups, each group consisting of 15 fathers and 15 mothers. One group received intensive counseling for 1 week, one group participated in counseling once a month for 3 months, and one group participated in counseling for 6 months. The attitudes of parents involved in the study were measured by attitude tests, interviews, and personality tests administered before and after group sessions. Positive patterns of child rearing were found and parents tended to be more adjusted to the handicap and to educational goals than to community or neighborhood reaction to the child. Counseling seemed to have the effect of liberalizing attitudes toward retardation and personal adjustment. The longer the counseling period the more ideas on the general subject changed while short periods brought more changes on specific points. Although results showed great variability, conclusions were that counseling has a selected effect on the attitudes and personality structure of parents and that group counseling can be beneficial. (JL)

ABSTRACT 20802
ED C 02 0802
ED N.A.
Publ. Date 58
442p.
Masland, Richard L. And Others
Mental Subnormality; Biological, Psychological, and Cultural Factors
National Association For Retarded Children, New York, New York
EDRS not available

Descriptors: exceptional child research; mentally handicapped; etiology; biological influences; prenatal influences; psychological characteristics; cultural factors; environmental influences; prevention; incidence; heredity; intelligence tests; academic achievement; socioeconomic influences; ethnic origins; language development; sex (characteristics)

Two research programs examine the biological, psychological, and cultural causes of mental subnormality. The prevention of mental subnormality is presented in terms of such biological factors as those significant in the prenatal, perinatal, and postnatal stages of development, and those concerned with regeneration of the central nervous system. Pathological histories; history of depression; in accidents; the information on psychological and cultural factors includes problem solving behavior, intelligence and cultural factors, and descriptions of both the severely defective individual and the higher grades of mental defect. Recommendations for research and a list of references are presented. (RD)

ABSTRACT 20806
EC 02 0806
ED N.A.
Publ. Date 58
216p.
Kirk, Samuel A.
Early Education of the Mentally Retarded.
EDRS not available
University Of Illinois Press, Urbana, Illinois 61801 ($5.00).

Descriptors: exceptional child research; mentally handicapped; preschool children; environmental influences; educable mentally handicapped; foster family; preschool programs; disadvantaged youth; etiology; intellectual development; social development; case studies (education); institutionalized persons; early childhood education; family influence; evaluation techniques; family background

To provide factual data for or against the general contention that special educational provisions at a young age can alter the rate of development of mentally retarded children, 81 children between the ages of 3 and 6, with IQ's between 45 and 80, were studied for 3 to 5 years. The children were divided into four groups: the community preschool group; community contrast (did not attend preschool) group; institution preschool group; and institution contrast (did not attend preschool) group. Case studies of the experimental children and statistical comparisons of the preschool and contrast groups indicated that 70% of the children who received preschool training showed an acceleration in rates of growth and retained that level during the follow up period. The over all IQ and Social Quotient (SO) increases of the preschool groups beyond those of the contrast groups on the Binet, Kuhlmann, and Vineland Scales were all significant beyond the .05 level. Children living in psycho-socially deprived environments, a case finding of PKU as a public health approach, and public health laboratory screening programs. Also included are the following topics: organization of community services, the role of government and legislation in management of problems in medicine, the implications of the drive for screening, membrane transport functions and their relation to PKU, inhibition of phenylalanine hydroxylase in liver, unanswered questions in the primary metabolic block in PKU, neuropathology and abnormalities of lipid metabolism, and amino acid and protein metabolism in the developing brain. (LE)
homes who did not attend preschool tended to remain at the same rate of development or to drop to lower IQ levels. Both community and institutional preschool groups increased about 10 points in IQ and SQ during the preschool period. The community contrast group children generally retained their original IQ's and SQ's but the IQ and SQ of the institution contrast group tended to drop during the preschool period. Case histories are included. (LE)

ABSTRACT 20820
EC 02 0820
Publ. Date Apr 69
ED 037 686
60p.
Stinnett, Ray D.; Prehm, Herbert J.
Learning and Retention: A Comparison of Three Methodologies with Mentally Retarded and Normal Children.
Illinois University, Springfield
Office Of Education (DHEW), Washington, D. C., National Center For Education Research And Development
EDRS m,hc
OEG-9-8-071103-0115(010)
BR-7-103
Descriptors: exceptional child research; mentally handicapped; learning; educational methods; rote learning; retention; educable mentally handicapped; recall (psychological); paired associate learning; learning processes; intelligence differences; learning characteristics
Rote learning and retention performance was studied as a function of method used in original learning and as a function of intellectual level. Sixty educable mentally retarded and 60 mentally normal junior high school students were randomly selected and assigned to one of three treatment groups, each learning to a different criterion, for each intellectual category in order to learn a paired associate list. Retention was assessed by immediate recall scores, 24 hour recall scores, and relearning scores following the 24 hour interval. A 2x3 complete factorial analysis of covariance was performed for the following dependent variables: original learning; relearning; and 24 hour recall. Immediate recall was assessed utilizing a 2x3 complete analysis of the variance procedure. The results of the investigation indicated inferior learning performance and a 24 hour retention deficit for retarded subjects and amelioration by overlearning of retention deficits in the retarded subjects. In addition, the results in the area of rote learning and retention comparing mentally retarded and normal subjects were found to be method dependent. (Author/JD)

ABSTRACT 20834
EC 02 0834
Publ. Date 69
ED 032 701
13p.
Levitt, Edith
The Effect of Context on the Reading of MR and Normal Children at the First Grade Level.
Columbia University, New York, Research and Demonstration Center For The Education Of Handicapped Children
Office Of Education (DHEW), Washington, D. C.
EDRS m,hc
RR-5
Descriptors: exceptional child research; mentally handicapped; context clues; word recognition; reading; reading ability; reading skills
To study the effects of context on the performance of children reading at first grade level, 26 retarded and 24 normal children were tested. Subjects read words printed individually on separate pages; they also read the word in the context of a sentence. Results indicated that provision of a context produced significant improvement in the reading performance of both groups, but the hypotheses that word recognition by context would be significantly greater for the normal subjects was not supported. Reasons for the failure of this hypothesis are given; the need to help retardates make the most effective use of context clues is expressed. (BJ)

ABSTRACT 20874
EC 02 0874
Publ. Date 69
ED 028 570
65p.
Sunderlin, Sylvia, Ed.; Wills, Brooke, Ed.
Nutrition and Intellectual Growth in Children.
Association For Childhood Education International, Washington, D. C.
EDRS not available
BULL-25-A
Descriptors: exceptional child research; disadvantaged youth; nutrition; child development; intellectual development; educational needs; health; food; economic disadvantages; incidence; diseases; poverty programs; foreign countries; school programs; federal aid; government role; biochemistry; infants; dietetics; mothers; mentally handicapped; mental retardation
A consideration of nutrition and intellectual growth opens with a glossary of 12 terms and two reports on hunger in America, one by J.L. Frost and B.L. Payne, the other by the Citizens' Board of Inquiry into Hunger and Malnutrition. Included are articles on nutrition and intellectual development in children, by M. Winick; maternal diet, growth, and behavior, by M. Simonson and B.F. Chow; international nutrition and later learning, by M.C. Latham; and medical care of children in Poland, as told to H.T. Suchara. Also, D. Rosenfield and F.J. Stare discuss nutritional prospects for the future; M.L. Cronan describes the role of the school in providing for the handicapped; and M.J. Brennum treats conservation, resources, and education. (JD)

ABSTRACT 20900
EC 02 0900
Publ. Date Aug 67
ED 016 340
72p.
Levy, Irwin S.
The Effect of Age as a Variable on the Scores of the Harris-Goodenough Drawing Test of Educable Retardates.
North Carolina University, Chapel Hill
EDRS m,hc
OEG-2-6-068739-1751
BR-6-8739
Descriptors: exceptional child research; tests; mentally handicapped; adolescents; educable mentally handicapped; test reliability; intelligence tests; group intelligence tests; age differences; age; standardized tests
In order to determine the reliability of performance of retarded adolescents on the Harris Revision of the Goodenough Draw-A-Man Test (DAM) and whether the decline in performance which occurs in normal adolescents at the mid-teens also occurs with retarded adolescents, 213 male and 130 female subjects, aged 11 to 20 years and with IQ's of 56-72, in intermediate and secondary classes for the educable mentally handicapped (EMH) in North Carolina were tested. The DAM was administered in group form to all the subjects in their own classrooms. It was readministered after 7 months. Overall mean change for the 3½ subjects between test and retest was significant (p less than .05). Analysis of variance produced significant F-Ratios showing that standard deviation for change differed at various chronological age groups for the males. Results indicated that the test-retest reliability was significant (p less than .01). The test is useful with EMH females to age 16 and with EMH males to age 20 years. Although the maximum chronological age divisor of 15 was established by the maximum chronological age divisor of 15 was established by Harris, the intra scorer reliability coefficient after 6 weeks was .99. In conclusion, the DAM test as a measure of concrete concept formation seems to be a reliable instrument for gaining information about mildly mentally handicapped adolescents. Twenty-five references and 19 tables are included. (DT)

ABSTRACT 21032
EC 02 1032
Publ. Date 69
ED 033 484
242p.
Bodoff, M.
Cambridge Mental Health Center, Massachusetts
Office Of Education (DHEW), Washington, D. C., Bureau Of Research
EDRS m,hc
OEG-32-31-0000-6019
BR-6-1184
Cambridge Mental Health Center, 20 Sacramento Street, Cambridge, Massachusetts 02138.
Descriptors: exceptional child research; mentally handicapped; teaching methods; academic achievement; instructional materials; educable mentally handicapped; manipulative materials; junior high school students; nonverbal ability;
electricity; nonverbal learning; ability; sciences; student evaluation; evaluation methods; average students
To test the hypothesis that the amount learned from a manipulative, nonverbal oriented unit on electricity would be better predicted by a learning potential assessment procedure than from an IQ balanced evaluation (educable mentally retarded status), an EMR group and a regular class non EMR group were both exposed to the unit; untaught EMRs served as controls. Students were assessed on pretests; students who were high scorers or gainers were considered to have strong learning potential. Results showed that both taught groups knew more about electricity after the unit than before, and that EMR gainers and highscorers learned more than non-gainers. A second study showed no difference in amount learned between the unit and a lecture-demonstrati9n unit. Conclusions were as follow: certain EMR's are very capable when taught by nonverbal material; high scorers in the EMR range and low achieving regular class children may require novel presentations that will minimize effects of poor literacy skills; and EMR high scorers might do better in a regular class if curriculum changes were made to compensate for their reading deficits or if they were given extension work in reading. The manipulative, nonverbal unit, a teacher's guide for the unit, and the lecture demonstration unit are available in EC 004 359. (Not available in hard copy due to slightly marginal legibility of original document.) (Author/RJ)

ABSTRACT 21257
EC 02 1257
ED 002 769
Publ. Date 57
158p.
Cruickshank William M.; Blake, Kathi-ry A.
Syracuse University, New York. Re- search Institute. Office Of Education (DHEW), Washing- ton, D. C.
EDRS mf/hc
OFC-SAE-6144
CRP-127
Descriptors: exceptional child research; tests; achievement; mentally handicapped; learning; educable mentally handicapped; transfer of training; average students; institutional schools; comparative testing; achievement tests; intelli-gence tests; task performance
The study evaluated the responses of educable mentally retarded and intellec-tually normal children of similar mental ages to tasks involving certain aspects of learning and the transfer of that learning. The hypothesis tested was that differences in achievement and intelligence test performances would be related to differences in the progress in learning and transfer. Thirty endogenously men-tally retarded boys within the IQ range of 100 to 115 were matched individually on the basis of Binet Men- tal Age 6 through 10 years. In addition to being given individual IQ tests, each subject was screened for academic achievement and for adequate vision and hearing. The significance of any differences between the groups in mental age was evaluated by means of the t-test. A series of tests, including such items as card sorting and paired associ- ates, furnished data for the study in evaluating performances of the subjects. (GC)

ABSTRACT 21273
EC 02 1273
ED 003 817
Publ. Date 63
231p.
Stiulorow, Lawrence M.
Illinois University, Urbana
EDRS mf/hc
CRP-661
Descriptors: exceptional child research; programed instruction; mentally handi-caped; instructional materials; teaching methods; recognition; recall (psycholog- ical); stimulus behavior; sight vocabulary; vocabulary development; student ability; verbal ability; programed materials; educable mentally handicapped; autoinstructional aids; teaching ma-chines
Principles for programing instructional materials for teaching mental retardates were derived from concepts conceived from a theory previously developed by the author. The theory placed emphasis on the cueing function in the stimulus control of behavior. Relevant sections of the theory and related research were described. Separate experiments were conducted for grouping and spacing of frames with common stimulus elements, recognition and recall, under stimulus control, sequencing complex associative paradigms to be taught in both a forward and backward direction; prompt- ing versus confirmation sequences and overlearning in the automated teaching of sight vocabulary; prompting, confirm- ing, and vanishing in the automated teaching of a sight vocabulary; and applying a computer prepared program for automated frame writing. Some of the findings were as follow: optimum sequence of material for the learner could be contingent upon his aptitudes or abilities, explicit rules for generating programs could be built into the programed by the computer in writing frames, use a prompting stimulus-response (S-R) sequence produced more rapid learning than use of a confirmation S-R sequence, and a computer-pre- pared program to generate instructional materials produced successful in produc- ing a change in the subject's ability to express himself. (RS)

ABSTRACT 21494
EC 02 1494
ED 034 372
Publ. Date Aug 69
14p.
MacKinnon, Ronald C.; Elliott, Charles
A Comparison of an Achievement Battery with Two Tests of Ability with Educable Mental Retardates. Final Report.
Florida State University, Tallahassee Office Of Education (DHEW), Washing- ton, D. C., Bureau Of Education For The Handicapped
EDRS mf/hc
OEG-0-9-19061-0774(032)
Descriptors: exceptional child research; mentally handicapped; test validity; aptitude tests; comparative testing; achievement tests; testing problems; intelli-gence tests; educable mentally handi-capped; correlation; testing; group tests; individual tests
To find the concurrent validity of two scholastic aptitude tests when a scholas-tic achievement test was used as a criterion for use in placement of mentally retarded children, 127 subjects were involved. The California Achievement Test (CAT) was used as a criterion measure, and the Primary Mental Abili-ties Test (PMA) and the Slosson Intelli-gence Test (SIT) were used to determine the correlation of the scores with the criterion measure. The results indicated correlations of .68 between the PMA and the CAT and 62 between the SIT and the CAT. The intercorrelation of the PMA and SIT was .67. Ability subtests were analyzed to determine their correlations to the criterion. The conclusion was that when six or more children are to be tested, less time is needed and no concurrent validity is lost by using the PMA rather than the individual test, the SIT. Tables of results are included. (Author/M)
the 93 pilot study subjects, were assigned to one of the following four treatment groups: easy task-knowledge of past performance plus statement of goal, hard task-knowledge of past performance plus statement of goal, easy task-knowledge of past performance only, and hard task-knowledge of past performance only. The 80 subjects were tested alone in groups: easy task-knowledge of past performance only, and hard task-knowledge of past performance only. The 80 subjects were tested alone in groups: easy task-knowledge of past performance only, and hard task-knowledge of past performance only. The 80 subjects were tested alone in groups: easy task-knowledge of past performance only, and hard task-knowledge of past performance only. The 80 subjects were tested alone in groups: easy task-knowledge of past performance only, and hard task-knowledge of past performance only. The 80 subjects were tested alone in groups: easy task-knowledge of past performance only, and hard task-knowledge of past performance only. The 80 subjects were tested alone in groups: easy task-knowledge of past performance only, and hard task-knowledge of past performance only. The 80 subjects were tested alone in groups: easy task-knowledge of past performance only, and hard task-knowledge of past performance only.

The fourth of a series of reports on the study, Mental Retardation in a Canadian Province, the document covers the initial months of field data gathering in Prince Edward Island, April to September 1969. The major objectives of the study, to describe and explore the most suitable definition of retardation for Canadian population and report on the prevalence of mental retardation in a geographically defined population, are stated and further broken down into null hypotheses. Problems involved in selecting the sample population and data on the final sample, the battery of instruments administered, staff selection and training, the interview process, and the use of publicity to introduce and support the project are described. Professional interest in the study is mentioned with the conclusion that the study can fill an important research void. (RJ)

The study was concerned with the development of a consistent and reliable arithmetic achievement test to assess the arithmetic ability of educable mentally retarded youngsters ranging in age from thirteen through sixteen. The instrument so constructed is intended to be administered to all public school sub-samples but not for the institutionalized sub-sample. (Author/LE)

**ABSTRACT 22210**
EC 02 2140
ED 025 434
Publ. Date 68

Conner, Austin Jay
An Instrument of Measurement to Appraise the Arithmetic Abilities of Educable Mentally Retarded Children Ages Thirteen Through Sixteen. Colorado State College, Greeley
EDRS not available
University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106 (Order No. ED 12-719, Microfilm $3.00, Xerography $7.40).

Descriptors: exceptional child research; mentally handicapped; measurement; instruments; arithmetic; academic achievement; test construction; test reliability; educable mentally handicapped

The study was concerned with the development of a consistent and reliable arithmetic achievement test to assess the arithmetic ability of educable mentally retarded children ages thirteen through sixteen. The instrument so constructed is intended to be administered to all public school sub-samples but not for the institutionalized sub-sample. (Author/LE)

**ABSTRACT 22212**
EC 02 2212
ED 037 864
Publ. Date 69

Bilsky, Linda; Evans, Ross A.
EDRS m,hc
RR-4

Descriptors: exceptional child research; mentally handicapped; reading difficulty; retention; cluster grouping; cognitive processes; reading comprehension; reading processes; learning processes; learning disabilities

To explore the possibility that the tendency to cluster during free recall reflects organizational processes that are central to the attainment of certain reading skills, 32 mentally handicapped subjects were asked to recall 20 words from four conceptual categories on four consecutive trials. For one group the words were presented in random order on all four trials. For the second group, the words were presented in categories on two trials and randomly on two trials. The subjects in each group were further divided into above and below median reading comprehension subgroups. The major findings were that organized word presentation increased clustering on subsequent nonorganized trials, and that the above median reading comprehension group clustered significantly more than the below median group. (Author)

**ABSTRACT 22213**
EC 02 2213
ED 037 865
Publ. Date 69

Evens, Ross A.
The Use of the Associative Clustering Technique in the Study of Reading Disability: Effects of Presentation Mode. Columbia University, New York, New York, Teachers College Office of Education (DHEW), Washington, D.C.
EDRS m,hc
RR-3

Descriptors: exceptional child research; mentally handicapped; cluster grouping; retention; reading difficulty; reading processes; cognitive processes; learning processes; visual stimuli; oral stimuli; reading level; teaching methods; recall (psychological)

The study investigated the effects of visual and auditory recall stimuli on the associative clustering of words. The project was divided into four groups: each group was divided at the median on the basis of reading grade levels. The major findings of the study were that the reading level stimulus presentation mode did not influence the associative clustering of words. (Author)

**ABSTRACT 22229**
EC 02 2229
ED 037 881
Publ. Date Feb 69

A Study of Education Programs in Minnesota's Institutions for the Mentally Retarded. Minnesota National Laboratory, St. Paul
EDRS m,hc
RR-4

Descriptors: exceptional child research; mentally handicapped; institutionalized (persons); educational programs; residential schools; interagency cooperation; financial support; administration; educational needs; state surveys; program evaluation; Minnesota

To identify learning program needs and to make recommendations for quality control and expansion of programs for the mentally handicapped in institutions, four facilities were studied. Detailed questionnaires and visits were used to obtain the information. The major findings were that learning programs in Minnesota State Institutes are operating at minimum levels in terms of daily support and in numbers of residents served, and that there exists a basic inability to give meaningful learning experiences to most institutionalized persons. Recommendations include broader and more flexible funding, closer involvement of the State Department of Education and local school districts, and the establishment of closer ties between institutional programs and the

Disability: Effects of Presentation Mode.
Columbia University, New York, New York, Teachers College Office Of Education (DHEW), Washington, D.C.
EDRS m,hc
RR-3

Descriptors: exceptional child research; mentally handicapped; cluster grouping; retention; reading difficulty; reading processes; cognitive processes; learning processes; visual stimuli; oral stimuli; reading level; teaching methods; recall (psychological)
The validity of intelligence and other tests used in the diagnosis of retarded children was investigated. Experimental samples consisted of 101 children selected from special classes for educable mentally retarded whose ages ranged from 6.9 to 10 years and whose IQ scores ranged from 50 to 80. Tests evaluated were the Stanford-Binet, Illinoi.s Test of Psycholinguistic Abilities (ITPA), Peabody Picture Vocabulary Test (PPVT), Pictorial Test of Intelligence (PTI), Colored Progressive Matrices (CPM), and Primary Mental Abilities Test (PMAT). These tests were administered to the group with various learning ability tasks. Statistical analysis showed that the PMAT, Stanford-Binet, PTI, and CPM were valid, while the other two were less valid. The use of a combination of one group test and one individual test was supported; but the CPM and the PPVT were found not to be adequate substitutes for more comprehensive instruments that predict learning ability at an early age. (RS)

ABSTRACT 22736
EC 02 2736  ED 039 678
Publ. Date Nov 69  73p.
Copple, C. Rockne And Others
Habilitation of Rural Educable Mentally Retarded Adolescents: A Handbook for Educators
Eastern Montana College, Billings
Office Of Education (DHEW), Washington, D. C., Bureau Of Research
EDRS mhc
OEG-0-9-362020-0790(032)
BR-36-2020
Descriptors: exceptional child research; mentally handicapped; rural education; educational needs; educational programs; educable mentally handicapped; individual characteristics; vocational education; parent attitudes; administrator attitudes; counselor attitudes; student attitudes; consultants; curricular activities; individual development; Montana
A study was made of 20 rural high schools with enrollments of less than 110 and with an educable mentally handicapped student currently enrolled. Administrators, counselors, the educable students, and their parents were interviewed to determine provisions made for these students. In addition, the interviewers were concerned with what these people thought could be included in the school curriculum. These current and conceivable practices were submitted to six special education experts who rated them as to suitability. Each of the experts in turn composed a list of suggested practices in the areas of intellectual, social, emotional, moral, physical, and occupational development. These lists were submitted to parents who rated them on the basis of feasibility. (Author)

ABSTRACT 22739
EC 02 2739  ED 039 681
Publ. Date Jan 70  88p.
Feller, Melvin
Role-Taking Behavior in the Mentally Retarded
Yeshiva University, New York, New York
Office Of Education (DHEW), Washington, D. C., Bureau Of Education For The Handicapped
EDRS mhc
OE-G-8-422029-0716(032)
BR-42-2029
Descriptors: exceptional child research; mentally handicapped; role playing; projective tests; behavior development; educable mentally handicapped; intelligence differences; cognitive development; social development; interpersonal relationship; test construction; Role Taking Task
A projective role taking task (RTT) was developed with respect to procedure and scoring categories for use with the mentally retarded. The revised RTT was administered to 123 educables. Results indicated significant associations between mental age and various indices of the retarded's role taking behavior. These associations remained significant when chronological age was controlled. Also, both interjudge agreement and test reliability met levels established in previous studies of intellectually normal individuals. It was concluded, therefore, that the revised RTT was both reliable and valid with the retarded and provided a basis for study of the relationship between role taking ability and behavioral indices of social adequacy. (Author/ED)

ABSTRACT 22864
EC 02 2864  ED 040 516
Publ. Date Sep 69  111p.
Fisher, Kirk L.
Pennsylvania State University, University Park
Office Of Education (DHEW), Washington, D. C., Bureau Of Research
EDRS mhc
OE-G-8-0820104-4702(032)
BR-8-B-104
Descriptors: exceptional child research; mentally handicapped; perceptual motor coordination; training; educable mentally handicapped; academic achievement; intelligence level; age differences
Of 102 educable mentally handicapped children in special classes, 54 were identified by the Purdue Perceptual Motor Survey (PMS) as deficient in perceptual motor abilities. These 54 children were assigned to one of the following groups: training, which participated in an individualized, structured perceptual motor program twice a week for 4 1/2 months; Hawthorne, which met with the trainer but played table games; and control. Achievement and intelligence tests were given. The hypothesized improvement in perceptual motor abilities did not manifest itself, although children under 10 years of age in the training group scored significantly higher on the PMS than did controls of like age. Nor did...
hypoththesized improvement in intellectual performance, or achievement result. However, all three groups improved significantly on performance and achievement test scores; and training and Hawthorne groups showed significantly improved IQ scores. Thus, evidence suggested a correlation between perceptual motor ability and the variables of intelligence and achievement. (Author/ID)

**ABSTRACT 22876**

EC 02 2876 ED 040 528 Publ. Date Jul 68 36p.

Portal-Foster, C. W.

**Mental Retardation in a Canadian Province: Elements of the Research Design**


2. Canadian Department Of National Health And Welfare, Ottawa, Ontario

EDRS mfhc

Descriptors: exceptional child research; mentally handicapped; research proposals; social factors; psychological patterns; demography; incidence; research methodology; program planning; Prince Edward Island (Canada)

To study the psychological and social connotations of mental retardation in Canada, to identify demographic detail, and to develop research instruments and methodology, the proposed research studied the total population (110,000 persons) of Prince Edward Island. Subjects were randomly selected from ages 10 through 64. Prevalence tables are included, but the final results of the study are not yet available. The present knowledge is reviewed, and the methods to be used in the study are described. (JM)

**ABSTRACT 22881**

EC 02 2881 ED 040 533 Publ. Date Apr 68 92p.

Armstrong, Jenny R.

**The Relationship of Mathematics Curriculum Innovation to the Improved Learning of Mathematically Handicapped Students**

1. Wisconsin University, Madison Office Of Education (DHEW), Washington, D.C., Bureau Of Research

EDRS mfhc

OEG-1-7-09-3888 BR-7-E-109

Descriptors: exceptional child research; mentally handicapped; mathematics; curriculum design; intermode differences; educable mentally handicapped; deductive methods; inductive methods; audiovisual instruction; curriculum research

Mathematical learning at six cognitive levels, in areas of exact and varied repetition, was studied in 28 educable mentally handicapped students (mean IQ 74, mean age 12.6). Four different machine-presented programs of 10 lessons each utilized inductive or deductive modes of presentation and exact or varied forms of curriculum repetition. Results indicated that number learning at the knowledge, application, and evaluation levels was better facilitated by an exact form of curriculum repetition. Mathematical learning of operations was equally facilitated by inductive and deductive modes of presentation. Both area and topical curriculum organization were equally effective, regardless of the mode of presentation used; however, exact repetition better facilitated learning at the comprehension level when implemented by the inductive mode, while varied repetition was more effective when implemented deductively. (Author/ID)

**ABSTRACT 22901**

EC 02 2901 ED 040 553 Publ. Date Dec 69 28p.

Graham, James T.; Graham, Louella W.

**Auditory Perceptual Ability Related to Language Acquisition in Mentally Retarded Children. Interim Report**

1. Emory University, Atlanta, Georgia Office Of Education (DHEW), Washington, D.C., Bureau Of Research

EDRS mfhc

OEG-04-001242-1797(032) BR-7-124

Descriptors: exceptional child research; mentally handicapped; language; adolescents; language proficiency; linguistic competence; predictive ability (testing)

A part of a long range study of language behavior, six teenage mentally retarded males (IQ 37 to 64) were interviewed, and tapes were made to record language samples. Linguistic competence was found to be adequate while language performance was deficient. The sentence repetition test was found to be a useful predictor of problem areas for high corpus-error informants but not for those making few corpus errors. (Author/RJ)

**ABSTRACT 23173**

EC 02 3173 ED N.A. Publ. Date Dec 69 27p.

Cotten, Paul D.

**The Effect of Secondary Reinforcing Cues and Two Schedules of Reinforcement on Programmed Learning Using Mentally Retarded Individuals.**


EDRS not available

Descriptors: exceptional child research; mentally handicapped; educable mentally handicapped; programmed instruction; reinforcers; reinforcement

The effect of secondary reinforcing cues and intermittent scheduling on programmed learning with the mentally handicapped, 40 noninstitutionalized educable mentally handicapped children were taught a spatial organization task and a word learning task. The apparatus allowed simultaneous, separate, or combined presentation of the primary reinforcer and two secondary reinforcing cues. Different schedules of reinforcement using different secondary reinforcers or no secondary ones were used. Results showed intermittent schedules of secondary reinforcement more effective than continuous ones on the spatial organization task. Combined cues were no more effective than single ones, and neither of the single cues was more effective than the other. No conclusive results were obtained for the establishment of a secondary reinforcer. (KW)

**ABSTRACT 23240**

EC 02 3240 ED 010 289 Publ. Date 65 237p.

Blixt, Burton; Garfunkel, Frank

**A Field Demonstration of the Effects of Non-Automated Responsive Environments on the Intellectual and Social Competence of Educable Mentally Retarded Children**

1. Boston University, Massachusetts School Of Education Office Of Education (DHEW), Washington, D.C.

EDRS mfhc

CRP-D-014 BR-5-0363

Descriptors: exceptional child research; mentally handicapped; preschool children; environmental influences; disadvantaged youth; educable mentally handicapped; preschool education; demonstration projects; academic abilities; social development; reinforcement; socioeconomic status; cognitive development; cognitive processes; academic achievement; program evaluation

A preschool program with children of low socioeconomic status was conducted to enhance their educability. The 74 subjects were randomly assigned to one control and two experimental groups. Provisions were made for an optimal nursery school environment by helping children to function socially in a group, participate in experiences designed to arouse curiosity, and train for acquisition of academic skills. Instruments employed over the 3-year program evaluated cognitive abilities including aptitude, achievement, and language; the nongenetic, including personality and social development; and environmental factors, including home and family. The groups were no different at the conclusion of the study than they were at the beginning. Also, no evidence was obtained to support the theory that intelligence scores can be improved. It was suggested that additional effort should be given to the nature-nurture interaction, the time to begin interventions, and possible intervention models. (JK)

**ABSTRACT 23380**

EC 02 3380 ED 014 406 Publ. Date May 67 771p.

Blake, Kathryn And Others

**Learning of Basal Reading Skills by Mentally Handicapped Pupils. Final Report**

1. Georgia University, Athens EDRS mfhc

POJ-5-0391 OEG-32-20-0450-1032

Descriptors: exceptional child research; mentally handicapped; gifted; reading; reading skills; reading achievement; cognitive processes; basic reading; elementary school students; phonetic analysis;
The study was designed to investigate achievement in basal reading skills by mentally handicapped, intellectually normal, and superior pupils taught with the Scott Foresman New Basic Readers. The study was conducted in three elementary schools, one of each type. The experimental group consisted of one third and one half of the time of the majority of skills, the mentally handicapped, normal, and superior groups did not differ in rate of acquisition during the seven-month instructional period. For a majoriy of skills within each group, there was a significant linear trend (indicating improvement in skill achievement from grades 2 to 5) in the means at each of the instructional levels. Appendixes contain additional tables and figures, tests used, descriptions of skills, and statistical data. (TM)

**ABSTRACT 23457**

**EC 02 3457**
**ED 041 421**
**Publ. Date (69)**
**Klabe, M. Michael**

*Retardates in Residence: A Study of Institutions.* Hartford University, West Hartford, Connecticut

EDRS mhc

Descriptors: exceptional child research; mentally handicapped; institutionalized (persons); evaluation; institutional environment; institutionalized (persons); evaluation; institutional environment; institutional personnel; attendants; adjustment (to environment); interpersonal relationship; social relations; attitudes; behavior rating scales; rating scales; environmental influences; program descriptions; behavior; institutional facilities; comparative analysis

An introduction by Dr. David D. Komi-sar provides background and objectives for a study which eventually involved observations in six residential institutions. Two institutions were judged to be ineffective as residents appeared to be not happy or self-sufficient, showed little intellectual growth (or were rarely, if ever, retested), had many stereotyped behaviors, and manifested excessive need for social reinforcement. One institution emerged as clearly effective and one as moderately so. In five of six institutions, other ward residents were the source or source of interpersonal contacts; in only one institution did attendants and other nonretarded adults interact as frequently with residents. Between one and one half of the 118 severely retarded residents of the typical institution was spent in doing nothing. The attitudes of residents at the different institutions showed remarkable consistency. While verbal and psychological attributes of parents did not differentiate between effective and ineffective institutions, parents of children in an effective residence visited children more frequently. Additional research results and implications are presented, and schedules of a typical day at each institution are included. (RJ)

**ABSTRACT 23479**

**EC 02 3479**
**ED 041 440**
**Publ. Date 70**
**Gottwald, Her-ry**

*Public Awareness about Mental Retardation.* CEC Research Monograph. Eastern Michigan University, Ypsilanti Office Of Education (DHFW), Washington, D. C.

EDRS mf

Descriptors: exceptional child research; mentally handicapped; demography; attributes; statistical data; public opinion

To identify the status of public knowledge about mental retardation, to discern public attitudes, and to obtain demographic information on attitudes, a questionnaire was submitted to approximately 1,515 subjects. Extensive results are reported by generic presentation of total responses, analysis of data by independent variables, and analysis of semantic differential. The major appendix provides information on the instrumentation for the study, the questionnaire, and the coding keys. Independent variables were sex, age, education, occupation, income, race, marital status, number of children, demography, geography, and religion. (JM)

**ABSTRACT 23489**

**EC 02 3489**
**ED 016 106**
**Publ. Date Aug 66**
**Karnes, Merle B., And Others**


EDRS mhc

VRA-RD-1075

Descriptors: exceptional child research; mentally handicapped; slow learners; prevocational education; student rehabilitation; disadvantaged youth; vocational counseling; vocational adjustment; dropout prevention; delinquency prevention; work study programs

It was hypothesized that 91 slow learners from low socioeconomic status homes, in a carefully designed two-year vocationally oriented educational program with prevocational counseling, would show achievement superior to that of a matched control group enrolled in a regular educational program. Data were collected from school records, interviews, case studies, psychological tests, and Division of Vocational Rehabilitation records. The experimental subjects had significantly better attendance, fewer school dropouts, and made a better vocational adjustment than the control group. There was no significant difference between the two groups in social and emotional adjustment. Achievement tests scores for the tool subjects of arithmetic, reading, and spelling showed no significant differences between the two groups in amount gained. Some implications for program implementation were that specially trained administrative and teaching personnel should be employed for this kind of program, the ratio of teacher to youth should be no greater than one to 20, and the curriculum should be functional, individualized, and vocationally oriented. A review of related literature, a complete program description, and recommendations for further research and programming are included. (ET)

**ABSTRACT 23544**

**EC 02 3544**
**ED 042 277**
**Publ. Date Sep 68**
**Portal-Faster, C. W. And Others**


Canadian Department Of National Health And Welfare, Ottawa (Ontario)

EDRS mhc

Descriptors: exceptional child research; mentally handicapped; incidence; field studies; social factors; personal adjustment; socialization; field interviews; foreign countries; Canada

The second report on the Canadian Welfare Council’s study of the social and psychological aspects of mental handicaps in the population of Prince Edward Island reviews the development of the project, describes its current status, and outlines plans for continuation. The purpose of the study is to define the rate and prevalence of mental handicaps and thereby obtain valuable data for more adequate social planning and treatment for the mentally handicapped. Discussion are the development of the project to May 1968, details of the May to August operations (development of methodology, pilot study, construction of interview schedule, hiring and training the interview team, field work, data analysis), and the present status as of September 1, 1968, and future plans. (KW)

**ABSTRACT 23548**

**EC 02 3546**
**ED 042 279**
**Publ. Date Mar 70**
**Duncan, Ann Dell**

*Behavior Rates of Exceptional Children.* University of Michigan, Ann Arbor

EDRS mhc

The paper discusses the effects of labels on exceptional children and the benefits of tracking individual or class behaviors instead of mere labels. To determine the sensitivity of behavior rate in planning remedial action, 97 children (mentally retarded, emotionally disturbed, regular, learning disabled, and brain damaged) were rated on five behaviors (tapping, walking, reading, answering, and counting). The results indicate that behavior rates from all categories overlapped, rates of regular children were significantly faster than the retarded but no different from the other categories, and there were no significant differences between the four exceptionalities. Conclusions are that there may have been too varied collection procedures, the behaviors rated were not sensitive to the differences in the children, or the children may have been mislabeled. In the future, labels must become much more individualized. (JM)

ABSTRACT 23576
EC 02 3576 ED 042 309
Publ. Date Jan 70 137p.
Siegenthaler, Bruce M.
Pennsylvania State University, University Park
Office Of Education (DHEW), Washington, D. C., Bureau Of Education For The Handicapped
EDRS mC6e
OEG-00080426-4586-032

Descriptors: exceptional child research; mentally handicapped; auditory discrimination; auditory perception; educable mentally handicapped; intelligence differences; age differences; institutionalized (persons); etiology; testing
Tests were administered to 209 educable mentally handicapped children (mean age 10.8, mean IQ 77) to determine factors related to speech hearing. Results indicated that mental age, intelligence quotient, physiological age, institutionalization, and organic bases for retardation were not significantly related either to speech reception threshold or to speech discrimination test scores. However, chronological age was related to test performance. Also, the threshold and the discrimination by the Identification of Pictures tests were found both reliable and useful with the educable retarded subjects. (Author/ED)
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