

R E P O R T R E S U M E S

ED 013 429

AC 001 561

METHODS AND TECHNIQUES OF ADULT TRAINING, NUMBER 1. CURRENT
INFORMATION SOURCES.

SYRACUSE UNIV., N.Y., ERIC CLEARINGHOUSE ON ADULT

PUB DATE DEC 67

EDRS PRICE MF-\$0.25 HC-\$0.84 21F.

DESCRIPTORS- *ANNOTATED BIBLIOGRAPHIES, *ADULT EDUCATION,
*EDUCATIONAL METHODS, *TRAINING TECHNIQUES, MILITARY
TRAINING, MANAGEMENT DEVELOPMENT, PROGRAM COSTS, RESEARCH
METHODOLOGY, PROGRAMED INSTRUCTION, VOCATIONAL RETRAINING,
TRAINING OBJECTIVES, CORRESPONDENCE STUDY,

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MILITARY TRAINING, MANAGEMENT DEVELOPMENT, AND VOCATIONAL
EDUCATION AND RETRAINING, AND ON SUCH METHODS, TECHNIQUES,
AND RELATED ASPECTS AS RESEARCH METHODOLOGY, TRAINING COSTS,
CORRESPONDENCE STUDY, PROGRAMED INSTRUCTION, TRAINING
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CLEARINGHOUSE ON ADULT EDUCATION

METHODS AND TECHNIQUES OF ADULT TRAINING, #1

CURRENT INFORMATION SOURCES



CLEARINGHOUSE ON ADULT EDUCATION

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December 1967

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AC 001 124 E TRAINING IN INDUSTRY, THE MANAGEMENT OF LEARNING (Behavioral Science in Industry Series). Bass, Bernard M. * Vaughan, James A. 66
DOCUMENT NOT AVAILABLE FROM EDRS 177p.

TERMS: *industrial training, *management education, *learning processes, *training techniques, program administration, program content,

ABSTRACT: The principles of learning behavior derived through laboratory study can be extended to explain much of the complex learning required in industrial training programs. A review of the basic principles of human learning introduces four basic concepts-- drive, stimulus, response, and reinforcer--and discusses classical and instrumental conditioning and higher forms of learning. The strategy of training involves three steps--(1) statements of the content of the training program, characteristics of the learner and his environment, the over-all organizational climate, and the relation of training to company goals, (2) decisions about how and by whom the content will be taught, including discussion of both current industrial training techniques and promising innovations and the extent to which they conform to the principles of learning, and (3) administration and evaluation of the training program. Training needs and the effectiveness of training programs must be assessed continuously in a carefully designed and executed research program. (This document is available from Wadsworth Publishing Company, Inc., Belmont, California.) (aj)

SECONDARY TERMS: program evaluation, adult learning, individual characteristics, instructional technology, program planning, learning theories, educational needs, training objectives, teaching methods, evaluation techniques,

AC 000 616JE BUILDING AN ENVIRONMENTAL TRAINING MODEL, MAPCORE - A TRAINING EXERCISE FOR AIR POLLUTION CONTROL (IN Training and development journal, 21(5)/41-50, May 67). Siegel, Gilbert B. * Sullivan, Donald M. MAY 67 DOCUMENT NOT AVAILABLE FROM EDRS. 10p.

TERMS: *program evaluation, *models, *training techniques, *air pollution control, program description, research, controlled environment,

ABSTRACT: New air pollution control programs have resulted from the "Clean Air Act" passed by Congress in December, 1963. The University of Southern California developed a training model, called MAPCORE, which provides a semi-structured environment, is practical and realistic in approach, provides opportunity for high creativity, provides an interdisciplinary approach, and can be applied to training programs in any field where a continuous, integrative thread of development is needed. It is based on the Airlie House report on the three skills needed by air pollution control officials -- engineering and applied physical science, biological and medical, and social science -- and on "Dixon, Tiller County," which provides a basic scheme of a community that could be modified selectively. Built on a progressive continuum, MAPCORE consists of -- the total hypothetical community (Dixon/Tiller County), a simulation framework, and the "igniters" which start the students on their simulation activities. It is probably possible to apply the MAPCORE principle to most training situations, but careful planning and analysis will be required. (This article appeared in Training and development journal, monthly journal of the American Society for Training and Development, 313 Price Place, P.O. Box 5307, Madison, Wis. 53705) (eb)

SECONDARY TERMS: simulated environment, sequential programs, program development, program content, simulation, interdisciplinary approach, sequential learning, role playing, administrative personnel, case studies (education), MAPCORE, University of California,

AC 000 1230) RESEARCH AND DEVELOPMENT IN TRAINING, MOTIVATION, AND LEADERSHIP, WORK PROGRAM, FISCAL YEAR 1967. George Washington Univ., Washington. HumRRO. U.S. Dept. of the Army, Washington, D.C. JUN 66 113p. illus.

TERMS: *military training, *research proposals, *research projects, *leadership training, *teaching techniques, army personnel,

ABSTRACT: Plans are outlined for research on army training to be done by Human Resources Research Office (HumRRO) of the George Washington University. The general goal is to discover, develop and apply human factors and social science principles and techniques to enhance the efficiency of both training and operational performance of military personnel. Research covers training methods, requirements for training devices, motivation, and leadership. Each project proposed for 1967 is stated in terms of the military sponsor, research objectives, background of the problem and stages of research completed by HumRRO, the projections of work for 1967, and an estimate of work to be done after 1967. The statements of work to be done are grouped under Individual Training and Performance, Small-unit Training and Performance, Training Technology, and Training Management. (ja)

SECONDARY TERMS: human engineering, program improvement, program development, program evaluation, behavioral science research, educational research, motivation, HumRRO,

AC 000 1591) THE DERIVATION, ANALYSIS, AND CLASSIFICATION OF INSTRUCTIONAL OBJECTIVES. Ammerman, Harry L. * Melching, William H. George Washington Univ., Washington. HumRRO. TR-66-4. Task INGO. U.S. Dept. of the Army. Office, Chief of Research and Development. DA Proj 2J024701A712 01. MAY 66 56p. illus..Bibliog,pp.41-45

TERMS: *job skills, *research reviews, *taxonomy, *training objectives, educational objectives, data analysis, surveys, data collection,

ABSTRACT: An examination of the methods, terms, and criteria associated with the determination of student performance objectives was made in order to synthesize and apply the relatively new developments in human factors research on this subject. Educational and training research literature was examined and a survey of 8 Army service schools was conducted, to discover procedures used in determining course content. Important problems arising in connection with the development of objectives are identified and analyzed. A system for analyzing instructional objectives by identifying factors that influence their meaningfulness and usefulness was developed. Types of student performance objectives are listed, and a classification scheme for terminal objectives is suggested. The classification is based on 5 factors on which a statement of an objective may vary, affecting the nature of the student action description and the communicability of the statement itself. The variety of terms associated with objectives are discussed. (Author/ja)

SECONDARY TERMS: research, army training,

AC 000 1185

DEVELOPMENT OF PROCEDURES FOR DERIVING TRAINING OBJECTIVES FOR JUNIOR OFFICER JOBS. Ammerman, Harry L. George Washington Univ., Washington. HumRRO. U.S. Dept. of the Army, Washington. MAY 66 21p. illus.

TERMS:

*training objectives, *job analysis, *army training, *officer personnel, task analysis, task performance, questionnaires,

ABSTRACT:

Research was undertaken to develop a systematic method of preparing job-oriented training objectives for junior officers, mainly in the form of behavioral statements of student performance expected after training. The procedures were-- a) listing all tasks for a job, b) selecting tasks for some formal training, c) identifying the training emphasis needed, and d) specifying the knowledge and skills necessary. The procedures included the use of experimental questionnaires, both by personal interview and by mail, reviews of pertinent directives and publications, and visits to field units. Procedures were tried on a sample officer job, a task inventory of 452 items providing the basis for choosing 101 job activities for formal schooling. Of 160 training objectives stated, 46 were performance objectives for which detailed activity descriptions were required. It is believed that use of these procedures by service school personnel to prepare junior officer training objectives is feasible, and that they provide a method for deriving behavioral statements of relevant and essential objectives. (pg)

SECONDARY TERMS: research, student evaluation,

AC 000 534 E
ED 011 629

CRITERIA IN LEARNING RESEARCH (Report of a conference, Bromwoods Residential Center, Washington University) (University College research publications, 9). Wientge, King M., ed * DuBois, Philip H., ed. Washington Univ., St. Louis, Mo. Dept. of Psychology. Washington Univ., St. Louis, Mo. University College. U.S. Office of Naval Research. 66 EDRS PRICE MF-\$0.18 HC-\$2.96 74p.

TERMS:

*adult learning, *learning, *criteria, *measurement, *research methodology, research, performance, tables (data),

ABSTRACT:

Eight conference papers discuss (1) the problem of differentiating effects of specific instruction from effects of other influences (growth, environment, self-instruction, etc.), (2) criteria for measuring change in proficiency, and (3) ways of relating such change to outside variables such as measurable characteristics of learners and instructors, and methodology. The issue of acceptable criteria (performance measures, etc.) of degrees of learning during practice is discussed. Suggestions are outlined for improving experimentation by assembling all appropriate measurements and data, using ordered hypotheses, and treating experimental classrooms as single subjects. The Bromwoods study describes the failure of residential students significantly to surpass adult evening classes in objective knowledge (beginning psychology) or in improved measured attitude. Difficulties in application of criteria in Naval maintenance training research are documented, and corrective procedures are indicated. A paper on the curvilinear relationship between knowledge and test performance argues for final examinations as the best existing indicant of learning. Other papers outline a framework for studying criterion measures and their generalizability across samples, situations, and contexts, and evaluate programmed instruction among Naval trainees as a predictor of classroom learning. Document includes tables, figures, and references. (1y)

(over)

AC 000 275 C TRAINING RESEARCH AND EDUCATION (Wiley, New York). Glaser, Robert, ed.
65 613p.

TERMS: *military training, *research reviews,

AC 000 437JC TRENDS IN PROGRAMMED INSTRUCTION DURING 1965-66 IN MILITARY
TRAINING IN THE NATO NATIONS (IN NSPI journal, 6(4)/17-20, Apr 67).
Nagay, John A. 6p.

TERMS: *educational trends, *military training, *programed instruction,
Europe,

AC 001 159 C SOME RECENT DEVELOPMENTS IN THE THEORY AND PRACTICE OF TRAINING
SYSTEMS. (Annual meeting of the British Association for the
Advancement of Science, Nottingham, Sep 5, 1966). Wallis, D.
66 13p.

TERMS: *learning processes, *program development, *training,
*training objectives, *training techniques,

AC 000 563 FC COMPUTER ASSISTED INSTRUCTION, A SELECTED BIBLIOGRAPHY AND KWIC
INDEX. Engel, Gerald L. Naval Weapons Laboratory, Dahlgren, Va.
R-NWL-TM-K3/67. Jan 67 86p.

TERMS: *bibliographies, *computer assisted instruction, *programed
instruction,

AC 000 564FC ERGONOMICS ABSTRACTS 42151-43000 (Archive copy). ~~Gr. Brit. Ministry
of Technology, Warren Spring Laboratory, DEC 66 144p.~~

TERMS: *annotated bibliographies, *instructional aids, *performance, *ergonomics,
*psychomotor skills,

ABSTRACT: This is a bibliography, with abstracts, of literature on the aspect
of technology concerned with the application of biological and engineering data to
problems relating to the mutual adjustment of man and the machine, including learning.
It is in numerical order by document number and has a classified index. One major
section of the classification is on training aids and devices. (eb)

SECONDARY TERMS:

AC 000 1281) PROMPTING VS FEEDBACK IN TRAINING AUDITORY JUDGMENTS OF VARYING DIFFICULTY.
Aiken, E.G. U.S. Naval Personnel Research Activity, San Diego, Calif.
AUG 66 16p. illus. fs. Bibliog, pp. 11-12

TERMS: *feedback, *prompting, *auditory training, *reinforcement, enlisted men, naval training, research, Sonar Pitch Memory Test,

ABSTRACT: Two procedures for training enlisted men were compared for their efficiency in training 2 auditory judgments. Prompting involved presentation of the correct answer before the presentation of the stimulus. Feedback involved presentation of the correct answer after the men had judged the stimulus. Results indicate (1) trend toward superiority of feedback in improving pitch discrimination at two levels of difficulty, (2) toward superiority of prompting in the training of pitch and intensity identification, and (3) toward greater transfer to a Doppler discrimination problem following auditory identification as opposed to auditory discrimination training. Recommendations are made concerning implications of the data for Navy training and future research. Document includes 15 references. (Author/ly)

AC 000 3061) AN EXPERIMENTAL EVALUATION OF METHODS FOR IMPROVING THE READING SKILLS OF STUDENTS AT A NESEP PREPARATORY SCHOOL. Hooprich, Eugene A. * Anderson, E.H. U.S. Navy Training Research Laboratory, San Diego, Calif. MAR 66 13p. illus.

TERMS: *reading speed, *reading comprehension, *reading instruction, *evaluation, *mechanical teaching aids, military training,

ABSTRACT: An evaluation was made of the relative effectiveness of several reading training methods differing in number or type of reading devices and time of training. Comparisons were made among 5 matched groups of enlisted men (4 training groups and a control group) each composed of 12 Navy Enlisted Scientific Education Program Preparatory School students. Pre- and post-training test performance comparisons showed significant increases in speed of comprehension for 3 of the 4 training groups. No significant differences in the amount of speed of comprehension gain were attributable to use of reading machines or scheduled time of training sessions. None of the experimental groups made significant gains in level of comprehension. A change in post-training test orientation, emphasizing speed, significantly increased reading speed and decreased reading comprehension test performance. (Author/ja)

SECONDARY TERMS: pretests, post testing, teaching methods, reading skills, enlisted men, reading tests,

AC 000 540D THE INFLUENCE OF PRACTICE FRAMES AND VERBAL ABILITY ON PROGRAMED INSTRUCTION PERFORMANCE. Melching, William H. * Nelson, Frank B. George Washington Univ., Washington. HumRRO. TR-66-1 U.S. Dept. of the Army, Washington. DA-Proj-2J024701A712 JAN 66 DA-44-188-ARO-2 24p. illus.

TERMS: *programed instruction, *verbal ability, *evaluation, practice frames, enlisted men, achievement tests, time factors

ABSTRACT: A program in counterinsurgency was analyzed into teaching and practice frames and 2 program versions prepared, 1 containing both teaching and practice frames, and 1 containing only teaching frames. These were administered to 32 enlisted men representing 2 levels of verbal ability. On completing the program, each subject was administered 3 types of achievement test. Learning time and number of errors were obtained. The presence of practice frames was found to be influential only on a written recall type of test, where they enabled subjects to proceed through the program at a faster rate per frame, make fewer program errors, and score higher. Practice frames increased the total program learning time. Verbal ability was found to have a significant effect on performance on each type of achievement test and on both measures of performance. (ja)

SECONDARY TERMS: (learning), program development, accuracy, research, performance, teaching frames, army training,

AC 000 817FI A PROCESS FOR DETERMINING VOCATIONAL COMPETENCIES FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES FOR SALES PERSONNEL IN THE FEED INDUSTRY, AND THE LOCI AT WHICH THE COMPETENCIES COULD BE TAUGHT (ED 010 070). Albracht, James J. Michigan State Univ. College of Education. BR-5-0156 JUN 66 OEG-6-85-014 EDRS PRICE MF-\$0.27 HC-\$5.96 149p.

TERMS: *agriculture, *salesmanship, *vocational education, *evaluation techniques, research, tables(data), interviews,

ABSTRACT: This was a study to demonstrate a process for determining the vocational competencies essential for the performance of 9 feed sales activities and the places where they could best be taught. An instrument was developed with the assistance of the feed industry and university personnel, containing 40 essential competencies. A 24-member jury of experts was interviewed and its responses to the importance of the competencies were tabulated. The places for training which were considered were high school, a terminal education program after high school, 4-year college, adult or evening courses, dealer or company programs, or on-the-job training. The most commonly selected by the jury was dealer or company training, although general sales training could be provided at any of the places. A chi-square analysis and the McQuitty Hierarchical Classification System were used to measure the extent of agreement among the jury members. It was concluded that there is general agreement both on the needed competencies and the places where they could be taught. (rie/aj)

SECONDARY TERMS: measurement instruments, job analysis, McQuitty Classification System,

AC 000 594 I BREAKTHROUGH IN ON-THE-JOB TRAINING (IN Harvard business review, 44(4), Jul-Aug 66, 62-72). Gomersall, Earl R. * Myers, M. Scott. AUG 66 13p.

TERMS: *anxiety, *performance, *on the job training, *evaluation, *time factors (learning), supervisors, assembly workers,

ABSTRACT: A study was made at Texas Instruments Inc. of the effect of anxiety on learning time and attitudes among new employees. New women assembly workers were divided into a control group and an experimental group. The controls received the usual 2-hour, first day orientation. The experimental group received this plus a special one-day anxiety-reduction session in which they were encouraged to think of success and to communicate with their supervisors. New and transferred supervisors were trained by the employees. The difference between the groups in learning time and attitude was apparent at once and at the end of one month, the experimental group was significantly outperforming the controls. By reducing anxiety, the following gains were accomplished -- training time was cut in half, costs were lowered to one third of previous levels, absenteeism and tardiness dropped to one half, waste and rejects to one fifth, and costs were cut as much as 15 to 30 percent. Charts are included. (1y)

SECONDARY TERMS: tables (data), research, females, industrial training, supervisory training, work attitudes, Texas Instruments Inc.,

AC 001 006 C (SEE AC 001 005JC) ORGANISED HOME STUDY FOR OLDER RETRAINEES. (In Industrial Training International, May, 1967/196-198). Belbin, Eunice * Waters, Pamela. London. University College, Research Unit into Problems of Industrial Retraining. May 67 3p.

TERMS: *manpower development, *retraining, *correspondence study, *transfer of learning, vocational retraining, job skills,

ABSTRACT: Retraining for boiler operators and coal preparation officers was given to 442 men, most of them trained by home study courses, and the remainder were taught either in technical colleges or on in-plant courses. The older men preferred home study because they did not have to take notes. Many of them had problems with concentration, but found working at their own pace and in complete privacy balanced the difficulty. Those who had continued some form of education after leaving school did much better in theory than those who did not study any subject since leaving school. There was very little difference in practical work in both groups. (sg).

AC 000 731 C BASIC ELECTRONICS FOR MINIMALLY QUALIFIED MEN, AN EXPERIMENTAL EVALUATION OF A METHOD OF PRESENTATION. Goffard, S. James * and others. George Washington University, Washington. HumRRO. TR-61 U.S. Department of Army, Washington. Chief of Research-Development. Feb 60 33p.

TERMS: *ability, *army training, *electronics, *skill development, *training techniques, aptitude, manpower development,

AC 000 732 C EXPERIMENTALLY AND CONVENTIONALLY TRAINED FIELD RADIO REPAIRMEN, A FOLLOW-UP STUDY. Brown, George H. * Vineberg, Robert. The George Washington University, Washington. HumRRO. TR-65. U.S. Department of Army, Washington. Chief of Research-Development. Sep 60 38p.

TERMS: *army training, *electronics, *skill development, manpower development, training techniques,

AC 000 469C TRAINING EQUIPMENT AND BUILDING AMORTIZATION STUDY. Final report. Goodyear, Burton J. Wash. D.C. Naval Personnel Prog. Sup.Act., Personnel Research Lab. Clearinghouse for Federal Sci. and Tech. Info., Springfield, Va. JAN 66 71p. tables. mf. Appendixes Bibliog, pp. 64-65

TERMS: *training costs, *financial policy,

AC 000 615JE A NOTE OF CAUTION ON LISTENING TRAINING, STUDY SHOWS POSSIBLE FALSE IMPRESSIONS AND OVER-EVALUATION (IN Training and development journal, 21(5)/23-28, May 67). Crawford, Harold E. MAY 67 DOCUMENT NOT AVAILABLE FROM EDRS. 6p.

TERMS: *listening skills, *communication skills, *program evaluation, *training techniques, industrial training auditory training,

ABSTRACT: Honeywell used an audio-programmed course in listening skills, consisting of a series of taped statements of varying lengths and complexity, with considerable noise, and the trainee made a written or oral response. It took 2 and 1/2 to 3 hours to complete plus an additional half hour for pre- and post-testing. The first group showed two-fold to three-fold increase in average scores. With another group of employees, the pre- and post-tests were reversed, and it was found that the average score at the end of the program was lower than at the beginning. It was concluded that the post-test was easier than the pre-test. Two persons at Honeywell took the pre-test and immediately the post-test (with no training) and showed better than a two-fold increase. A comparison of the tests showed that there were different numerical point values for correct responses. There was greater mathematical probability that the trainee would score better on the post-test. Adverse consequences of this include false impressions of amount of learning and an over evaluation of the course. Some improvement was achieved by the training but caution is urged in selecting training programs for listening skills. (This article appeared in Training and development journal, monthly journal of the American Society for Training and Development, 313 Price Place, P.O. Box 5307, Madison, Wis. 53705) (eb)

SECONDARY TERMS: programed texts, post testing, test results, response mode, test validity, research,

AC 000 127D PURSUIT ROTOR PERFORMANCE, 1. EFFECTS OF REINFORCING THE LONGER INTERVALS OF CONTINUOUS TRACKING WITHIN EACH TRIAL. Sheldon, Richard W. * Bjorklund, John F. George Washington Univ., Washington. HumRR0. U.S. Dept of the Army. Office, Chief of Research and Development. JUN 66 30p. illus. fs. Bibliog.

TERMS: *enlisted men, *target detection, *reinforcement, *time factors (learning), *psychomotor skills, feedback, retention, motivation,

ABSTRACT: To determine whether selective reinforcement of pursuit rotor performance facilitates acquisition of skill and promotes its retention, 5 groups of enlisted men were individually trained for 10 sessions of 15 trials each. Selective reinforcement of longer than average target contacts was introduced for one group of subjects during Sessions 6 and 7 and for another during Sessions 4 to 7. Continuous reinforcement of target contacts was introduced for 2 other groups. A control group received no reinforcement. Dependable improvements in time-on-target scores were obtained for all 4 sessions, but the superior performances were not maintained when reinforcement was withdrawn. Results suggest that this improvement as a function of feedback was attributable to motivational rather than learning or informational effects. Document includes tables and 7 references. (Author/ly)

SECONDARY TERMS: research, tables (data), army training,

AC 000 1211) THE FORGETTING OF INSTRUMENT FLYING SKILLS AS A FUNCTION OF THE LEVEL OF INITIAL PROFICIENCY. Adams, Jack A. * and others. U.S. Naval Training Device Center, Port Washington, N.Y. 132p. illus. Bibliog, pp.48-49

TERMS: *retention, *instrument flying skills, *time factors (learning), *air force training, evaluation, statistical data, research,

ABSTRACT: This study was designed to determine whether instrument flying skills are affected by a 4-month interval of nonflying, and whether this effect differs as a function of initial flying proficiency. After equal classroom training, 2 matched groups of ROTC students, without previous flight instruction, were given a high and an intermediate amount of operational flight training, respectively. Following a 4-month period without practice, they were tested for retention. The 4-month interval without practice resulted in large decrements in the discrete procedural aspects of flight. In continuous flight control, forgetting occurred only occasionally and in amounts judged relatively insignificant by investigators. The differential effects of nonpractice on procedural versus flight control tasks were observed, even where both types of tasks were conducted simultaneously. In most instances there was no relationship between amount forgotten and initial level of flying proficiency. At the end of the interval, the high initial training group retained superiority over the intermediate group. Practical application and research implications are discussed. Document includes appendixes and 13 references. (1y)

SECONDARY TERMS: task performance, cockpit procedures, flight trainers,

AC 000 1171) A COMPARISON OF RESPONSE CONFIRMATION TECHNIQUES FOR AN ADJUNCTIVE SELF-STUDY PROGRAM. Meyer, Donald E. Aerospace Medical Research Lab., Wright-Patterson AFB, Ohio. AMRL-TR-66-98 JUN 66 31p. illus.

TERMS: *programed materials, *response mode, *feedback, *evaluation, reinforcement, research, air force personnel,

ABSTRACT: An experiment compared the effectiveness of 4 methods of confirming responses to an adjunctive self-study program. The program was designed for Air Force aircrews undertaking a refresher course in engineering. A series of sequenced multiple choice questions each referred to a page and paragraph of a publication containing detailed information on the questions. If a response was correct the student continued to the next question. If it was incorrect he referred to the publication. The methods of response confirmation were (1) chemically impregnated inks which changed color when moistened with a wetting agent, (2) punchboards, (3) opaque erasable overlays, and (4) a machine with a lighting and buzzing system. No significant differences in learning were found as a result of these methods, nor were there notable differences between group opinions about the methods used. On this basis, the selection of a response confirmation mode for an adjunct program may be based upon cost and availability of equipment and materials. (ja)

AC 000 1161) AN EXPERIMENT IN BASIC AIRBORNE ELECTRONICS TRAINING. PART I, EFFECT OF REDUCTION IN TRAINING TIME UPON KNOWLEDGE OF ELECTRONICS FUNDAMENTALS. Longo, Alexander A. * Mayo, G. Douglas. U.S. Naval Personnel Research Activity, San Diego, Calif. AUG 66 20p. illus.

TERMS: *time factors (learning), *electronics, *air force training, *enlisted men, longitudinal studies, matched groups,

ABSTRACT: This is the first report on a longitudinal study of whether training time can be reduced in basic airborne electronics training through revision of the course. It compares the relative performance of 2 matched groups of 154 trainees each, on the basis of a comprehensive test of knowledge of electronics fundamentals after the regular course of 19 weeks and the revised course of 14 weeks. Data indicate that the 26 percent course reduction resulted in less knowledge, the difference between the 2 groups being statistically significant at the .01 level. However, in assessing the practical difference between the performance of the 2 groups, training and research personnel thought the optimum length of the course was perhaps about 16 weeks. (Author/ja)

SECONDARY TERMS: statistical analysis, research,

AC 000 1121) COMPUTER BASED ADAPTIVE TRAINING APPLIED TO SYMBOLIC DISPLAYS. Mirabella, Angelo * Lamb, Jerry C. General Dynamics Corp., Groton, Conn. Electric Boat Division. U.S. Naval Training Device Center, Port Washington, N.Y. NAVTRADEVCCEN 1594-1 MAR 66 N61339-1594 36p.

TERMS: *computer assisted instruction, *psychomotor skills, *task performance, *adaptive training, *evaluation, visual stimuli,

ABSTRACT: The effects of adaptive and nonadaptive training on target detection performance using symbolic data displays were studied, using 42 male employees of General Dynamics Corp. Electric Boat Division as subjects. Experiment I investigated the effect of practice upon target recognition. The results indicated that target recognition was improved by practice but by the second session learning had leveled off. Experiment II dealt with adaptive versus non-adaptive procedures. There was no evidence that training adaptively was more effective than traditional procedures. Experiment III investigated the effects of various error rates upon monitoring performance. It was found that subjects who were maintained at a nominal error rate of 20, 40, 60, and 80 percent learned as well as those subjects trained under a 20 percent error rate. (aj)

SECONDARY TERMS: target detection, error rate, training devices, visual perception, research reviews, research,

AC 000 125D TRAINING SYSTEM USE AND EFFECTIVENESS EVALUATION. Jeantheau, Gabriel G. * and others. Dunlap and Associates, Inc., Darien, Conn. U.S. Naval Training Device Center, Port Washington, N.Y. JUL 66 130p. illus. Bibliog, pp.110-113

TERMS: *simulators, *transfer of training, *measurement techniques, *evaluation methods, research, instructional design,

ABSTRACT: Criteria for evaluation of training device effectiveness have been developed. The report examines methods of evaluation with particular emphasis on the problems of objective evaluation in the on-going training situation. Consideration is given to problems of measurement, experimental design, and analysis in the field setting. Further, attention is given to the issues of utilization and design of training devices and their influence on training effectiveness. An evaluation of the Aetna Drivotrainer was made and consequent recommendations are included for the 1LH54 Driving Improvement Trainer. A criterion-referenced measurement system was developed for the 1B22 Maneuvering Tactics Trainer for possible subsequent use in evaluating that device. (ja)

SECONDARY TERMS: military training, training devices, U.S. Navy, Aetna Drivotrainer, 1LH54 Driving Improvement Trainer, 1B22 Maneuvering Tactics Trainer,

AC 000 685 C A TEST OF A METHOD OF CONVERTING PROFICIENCY SCORES TO LEARNING TIME SCORES, (Research memorandum). Cox, John A. * and others. U.S. Army Air Defense, Fort Bliss, Tex. Human Research Unit. DA-44-188-ARO-2. George Washington Univ., Washington. HumRRO. Jun 64 44p.

TERMS: *predictive ability (testing), *time factors (learning), *training devices,

AC 000 340C AN ANNOTATED BIBLIOGRAPHY ON PROFICIENCY MEASUREMENT FOR TRAINING QUALITY CONTROL. Smith, Robert G., Jr. George Washington Univ., Alexandria, Va. U.S. Dept. of Army, (sponsor) JUN 64 29p. fs.

TERMS: *annotated bibliographies, *measurement techniques, *training,

AC 000 4851 THE RELATIONSHIP OF COLLEGE MAJOR TO SUCCESS IN NAVAL AVIATION TRAINING. Peterson, Floyd E. * Lane, Norman E. U.S. Naval Aerospace Medical Institute, Pensacola, Fla. APR 66 11p. fs.

TERMS: *military training, *prediction, *naval personnel, *student interests, *academic achievement, predictive

ABSTRACT: This study investigated college major of cadets as a possible predictor of success in naval aviation training. Each of 1245 pilot trainees was placed into one of 10 categories according to his college major. Three dichotomous criteria of success/failure were used. The extent to which the inclusion of college major categories contributed to the multiple prediction of success in flight training was examined by the Wherry-Doollittle technique. Their contribution was determined both as primary selection variables and as predictors after the completion of academic training. The inclusion of college major categories was found to increase significantly the multiple prediction of success/failure in naval aviation training (Author/ja)

SECONDARY TERMS: measurement, research,

AC 000 1131 THE RELATIONSHIP OF FIVE PERSONALITY SCALES TO SUCCESS IN NAVAL AVIATION TRAINING. Fleischman, Howard L. * and others. U.S. Naval Aerospace Medical Institute, Pensacola, Fla. MAY 66 10p.

TERMS: *personality assessment, *psychological testing, *predictive validity, *aviation training, student ability, research,

ABSTRACT: Five personality scales were investigated for use as predictors of success or failure of student Naval aviators. The scales were (a) Cattell's Sixteen Personality Factor Questionnaire, (b) the Taylor Manifest Anxiety Scale, (c) the Alternate Manifest Anxiety Scale, (d) the Pensacola Z Scale, and (e) the Adjective Check-List. Results showed that certain personality variables contributed significantly to the prediction of success or failure. While the results were promising, cross validation will be required before any of the personality measures could be used to augment the current prediction system. There are tables and 8 references. (Author/aj)

SECONDARY TERMS: tables (data), rating scales, Cattell's 16 P F Questionnaire, Taylor manifest anxiety scale, Alternate manifest anxiety scale, Pensacola Z scale, Adjective check list,

AC 000 1581)

DEVELOPMENT OF TECHNICAL TRAINING MATERIALS FOR NIKE HERCULES JUNIOR OFFICERS. Haverland, Edgar M. George Washington Univ., Washington. HumRRO. TR-66-6 U.S. Dept. of the Army, Washington. DA-44-188-ARO-2 JUN 66 46p. illus.

TERMS: *evaluation, *instructional materials, *program development, *programed texts, test construction, on the job training,

ABSTRACT: Research aimed to improve the ability of Nike Hercules battery officers to evaluate the operational readiness of their units by identifying the technical information most needed for judging readiness and developing effective training materials. An analysis was made of the functions of the Nike Hercules fire control system, and the officer's role in operating and maintaining the system, resulting in a list of major system functions which was used to choose the content of training materials. These were programed for self-instructional training and tests were constructed covering the technical information. Fifty student officers were divided into experimental and control groups, matched on final grades in the Officer Basic Course. The control group used existing army reference materials. The experimental group, using programed materials, achieved significantly higher post-test scores for 6 of the 10 sections of material. The program was particularly helpful in teaching complex technical information. The same method of developing instructional materials may be used for officers of other weapon systems. (author/ja)

SECONDARY TERMS: job analysis, research, army training, officer personnel, tables(data), Nike Hercules,

AC 000 1571)

THE RELATIONSHIP OF READING ABILITY TO ACHIEVEMENT IN AN EXPERIMENTAL ELECTRONICS TECHNICIAN SCHOOL. Hooprich, Eugene A. U.S. Navy Training Research Laboratory, San Diego, Calif. JUN 66 10p. illus.

TERMS: *achievement, *reading ability, *electronics, *academic performance, *task performance, experimental teaching,

ABSTRACT: A sample of 75 navy personnel who had completed recruit training were members of 5 experimental Electronics Technician School classes. Proficiency in maintenance performance was stressed more and textbook study less than in many such courses. The trainees' composite scores on all written and performance tests administered throughout the course were correlated with 2 reading test scores. No statistically significant correlations were obtained. Reading ability within the range of the present sample, who had aptitude scores slightly below those required for selection to Electronics Technician A schools, does not appear to a critical factor in determining success in training. (ja)

SECONDARY TERMS: research, military training,

AC 000 3011J SUBJECTIVE AND OBJECTIVE COMPARISONS OF SUCCESSFUL AND UNSUCCESSFUL
 TRAINEE DRIVERS (IN Ergonomics, 9(1)/49-56, Jan 1966). Brown, I.D.
 66 8p. illus.

TERMS: *driver education, *evaluation techniques, *objective tests, *evaluation,
 *test construction, subjective evaluation,

ABSTRACT: Twenty-two men were tested at weekly intervals during a 5 weeks course
 in bus-driving. The use of the vehicle's controls and time taken over a standard
 circuit in traffic were recorded at each test, and the trainees' reserve capacity
 was measured by scoring their performance on a subsidiary auditory task. Trainees
 were subjectively assessed by experienced examiners. Details were available of previous
 driving experience with other vehicles. Test scores and driving background of trainees
 who passed the driving test for Public Service Vehicles, given at the end of the
 course, were compared with the scores and backgrounds of those who failed. Success
 on the P.S.V. test was significantly related to previous driving experience, to the
 result of the progress check given after 14 days' training, and to the reserve capacity
 score. At no stage during training could the two groups be discriminated on the objective
 measurements made directly on driving performance. The relative merits of these methods
 of assessing driving potential are briefly discussed, with a view to the design of
 simple selection tests for professional drivers. (Author/ja)

SECONDARY TERMS: task performance, experience, statistical analysis, test results,
 research,

AC 000 778 C HOW TO GET MORE OUT OF TRAINING CONFERENCES. Zelko, Harold P.
 65 29p. Pub. by Assignments in Management, Santa Monica, Calif.

TERMS: *conferences, *planning meetings,

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