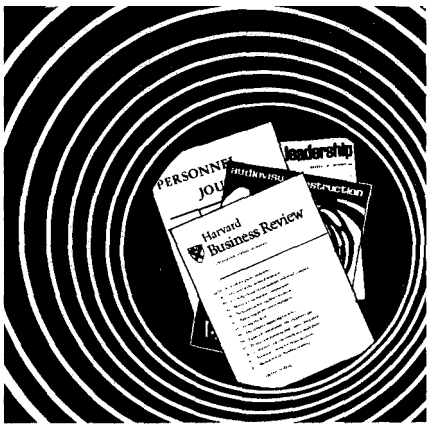

TRAINING RESEARCH ABSTRACTS

Cregrin, Don

Direct Involvement of Students

Improving College and University Teaching, Vol. XVI, No. 1, Winter, 1968, pp. 26-28.

The conscientious instructor must organize his course so that it is meaningful to both highly motivated and more or less apathetic students. This is difficult with the conventional textbook-lecture-discussion method of teaching. The author has sought to devise new techniques to contribute significantly to the educational growth of each class member. To ensure direct involvement of each student, a modification of Joseph Lancaster's teaching technique was employed. In this system, the instructor has constant contact with a small number of student leaders who in turn become responsible for mobilizing the enthusiasm and activity of the other students. The author claims to have achieved striking results with the technique. The benefit is said to be derived from making each participant aware of the importance of his personal contribution and from bringing a positive change in the instructor's attitude to the course and in the nature of his preparation.

Drouet, Pierre

Vocational Training Costs: Results of a Pilot Study and an Essay in Methodology

International Labour Review, Vol. 97, No. 2, Feb., 1968, pp. 115-135

The author attempts to outline a method whereby the cost of the various systems of training may be accurately determined so that a choice may be made in full knowledge of the facts and in line with the possibilities of the individual country involved. He first points out the lessons to be learned from a modest pilot study carried out by the International Labor Organization, and then suggests a method for analyzing costs which is intended to be simple enough for use in practice. Two aspects are considered: the overall cost of the training system and the way in which it is financed. A list recapitulating the points that ought to be considered in an investigation of this kind is accompanied by detailed explanations to ensure that the data collected are comparable, which is essential.

Glasner, Daniel M.

Why Management Development Goes Wrong — Five Reasons

Personnel Journal, Vol. 47, No. 9, Sep., 1968, pp. 655-659.

Most programs of management development which have been created vary considerably in sophistication, scope, and techniques. They also vary in terms of potency. This article pinpoints the major reasons why some of these efforts produce less than adequate results. Management development is seen as having two facets: teaching the "how" and the "why" of jobs. Development programs must thus combine training and education for maximum effectiveness. Five reasons elaborated on for ineffectiveness are (1) an unsympathetic environment, (2) inadequate planning, (3) poor selection procedures, (4) failure to consider the individual, and (5) poor techniques. Development methods and techniques must be chosen carefully to fit a particular company and its situation. The importance of advance awareness of pitfalls in training programs is emphasized.

Guison, Gerald D.

The Job Training Standard: Its Application to the Aerospace Industry

Personnel Journal, Vol. 47, No. 3, Mar.,1968, pp. 178-199
(Abstracted in *Poverty and Human Resources Abstracts*, Vol. 3, No. 5, 1968)

"The Job Training Standard Technique used by the U. S. Air Force Training Command to develop on-the-job training programs is suggested as a training tool for

solving training problems in other industries. The Air Force experience indicates that a definition of what constitutes a trained worker acceptable to industry is needed before more effective programs can be developed. Job Training Standards must describe the job and include only those elements necessary for satisfactory task completion. In 1968, the Fort Worth Division of General Dynamics undertook a study program to determine if the job training standard was applicable to its needs. Two training programs were analyzed, and a tentative job training standard was written for each. Analysis of the General Dynamics experience indicated that modifications in the original training program were necessary to give the trainees greater opportunity to develop a higher potential during the time alloted. It was found that job training standards can serve not only to define the limits of training in terms of knowledge and skills needed, but to measure employee proficiency based on satisfactory task completion requirements."

Kubala, Albert L., and Christenson, Harold E.

The Effects of Group Competition Upon Group Performance

Human Resources Research Office (HumRRO), June, 1968, p. 44

"In a study to determine whether group competition is effective in improving motivation in technical training, two experimental classes were divided into four groups each, equal in size and mean aptitude. Each group competed with each of the other groups during successive two-week intervals. The winner in each pairing was the group that failed the smallest percentage of regularly scheduled school examinations during the period. Low-cost and recognition-type rewards were presented to members of winning groups. Peer ratings and an attitude questionnaire were administered before the first examination, and again after four weeks. The peer rating on desire to succeed and the questionnaire, both presumably measuring motivation, seemed to be valid predictors of success. Group competition did appear to be an effective means of improving academic performance of the lower aptitude men. The competition grouping was found to influence friendship choices on the peer ratings."

Massey, James O.

An Approach to More Effective Training for Executive Careers

University of Southern California, 1967, 202 pp. (Condensed in *Dissertation Abstracts*, 28, 1968-B)

This study reports an examination of the usefulness of more realistic simulation models in the academic study of business, and an analysis of resources necessary to implement the development and use of such models. The task of developing simulation models appropriate for educational purposes was treated experimentally. A survey of the literature indicates three distinctively different types of mathematical-oriented models referred to as "simulations": management games, game theory, and simulations. Management games presently in use can be modified into simulations, introducing elements of uncertainty which permit the student to incorporate probablistic aspects in decision-making.

An experiment was devised to test this method of developing simulation models from existing games. An ordered program of deterministic type was modified to introduce statistical uncertainty in three specific areas involving decisions on the part of the student. Comparison of student reaction to the original game and to the modification indicated an enhanced degree of realism and greater appreciation of significant factors involved in the decision-making process on the part of the student. The use of simulation models is seen as offering great promise for executive training.

McKenna, Frank S.

Programming Possibilities for Classroom and Laboratory

Improving College and University Teaching, Vol. XVI, No. 1, Winter, 1968, pp. 18-20.

The thesis of this presentation is that programmed instruction has great potential for teaching and learning of college course material, that published research indicates programmed instruction can be very effective and efficient, that its self-pacing feature makes it adaptable to individual differences, and that used in conjunction with conventional teaching methods it can add variety and interest to the students' educational experiences. Nine possibilities are touched upon for using programmed instruction in the college classroom or laboratory that are based on the findings of research in the area.

Roe, Kikevlachouli

Scrambled vs. Ordered Sequence in Auto-Instructional Programs

Training Systems Research Project, California Univ., Los Angeles, Aug., 1967, 6 p., (Condensed in *Research in Education*, Vol. 3, No. 9, Sept., 1968)

"Thirty-six college freshmen were matched for math ability and randomly assigned to an experimental and control group, to work a 71-item linear program in scrambled and ordered sequence respectively. An immediate post-test showed that item sequence had no significant effect on learning time, error score, test score, or test time. Prior math ability had a significant effect on error and test scores but did not interact with item sequence."

Rust, Grosvenor C.

A Study to Explore the Effectiveness of Color Photographs on Intrinsically Programmed Automated Instructional Material

Southern Illinois Univ., Sept., 1967, 51 pp. Abstracted in *Research in Education*, Vol. 3, No. 9, Sept., 1968.)

"College freshmen volunteered for this laboratory experiment using self-pacing on individual teaching machines for library orientation. Slides presented to one group combined color photographs and print, while the other group saw only slides with print content. Pretests included standard ability tests and a library usage test, also administered after the experiment. The two groups showed no significant differences in gain scores in the usage test, nor on time spent on the program. Low ability students profited more from the color version. Behavior required during the program was evaluated for each subject on a scale by an observer, and the color group performed significantly better. There were no differences in error rate, but the color group completed branching frames significantly better. A slightly refined replication for upper division college students showed reliability of the usage and performance tests, and significant differences on gain scores and performance in favor of the color group."

Seidel, Robert J., and Hunter, Harold G.

The Application of Theoretical Factors in Teaching Problem Solving by Programmed Instruction

Human Resources Research Office (HumRRO), Apr. 1968, 68 p.

"In continuing research into the technology of training, a study was undertaken to devise guidelines for applying programmed instruction to training courses that involve the learning of principles and rules for use in problem solving. As the research vehicle, a portion of the material in the Army's ADPS Programming Specialist Course was programmed to explore several different factors in using

automated instruction to teach computer programming. Experimental versions of the course were administered to over 900 subjects in various experimental groupings. Criterion and retention tests based on actual job problems were used to measure subjects' performance, along with intraining measures. Results in a series of prompting/confirmation variations indicated that giving subjects extensive stimulus support during training helps motivate them and improves scores during training, but hampers them in using what they have learned. Requiring subjects to fully write out rules during training hindered them in developing problem-solving skills applying these rules; however, using mnemonics during training aided subjects in retaining what they had learned, particularly for more complex material. Working with a variety of practice problems facilitated the learning of problem-solving skills."

Showel, Morris

Development of Two Automated Programs for Teaching Military Justice To Men of Various Aptitude Levels

Human Resources Research Office (HumRRO), June, 1968, 32 p.

"In an effort to build programs to teach congnitive-type material to men of widely differing aptitudes, exploratory work was conducted in Military Justice, one of the more abstract subjects in Basic Combat Training. Objectives were identified and alternative tape and slide training programs developed — one slow-paced (designed for low aptitude men), the other fast-paced (designed for high aptitude men). The programs differed most in speed of presentation and amount of repetition. One group of trainees attended the Slow program, and a comparable group, the Fast program; both groups were tested immediately after the class to measure recall and again four weeks later for retention. A comparable group of trainees was tested before attending any Military Justice classes to measure entry-level knowledge. Men at all levels of aptitude learned from the programs and tended to remember what they had learned. The programs did not have differential effectiveness for men of different aptitudes. Whatever their aptitude, the trainees who took the Fast program were more favorable to it than trainees who took the Slow program were toward it."

"Machine Tool Operator, General, Entry, Suggested Guide for a Training Course, (Manpower Development and Training Program)"

Office of Education, Washington, D. C.
(Taken from *Abstracts of Instructional Materials in Vocational and Technical Education, Fall,*1967, p. 102)

The purpose of this curriculum guide is to assist the administrator and instructor in planning and developing Manpower Development and Training Programs to prepare machine tool operators for entry-level positions. The course outline provides units in--(1) Orientation, (2) Bench Work, (3) Shop Mathematics, (4) Blueprint Reading and Sketching, (5) Power Saws, (6) Drill Press, (7) Engine Lathe, (8) Milling Machine, (9) Surface and Cylindrical Grinders, (10) Shaper, and (11) Mass Production Methods. Each unit contains a time allocation, objectives, unit outline, suggested activities, and a list of references. Instruction of related theory is to be concurrent with the development of skills in the shop. Suggestions for planning the lessons and evaluating the students are included. Supplementary materials include a layout of a training facility and suggested machines, tools, equipment, and expendable supplies for a class of 20 persons. This document is available in both microfiche and hardcopy from the Center for Vocational and Technical Education, 980 Kinnear Road, Columbus, Ohio 43212.