

## TRAINING RESEARCH ABSTRACTS

GERALD H. WHITLOCK  
Editor

GEORGE J. RUBIN  
Assistant

**Beck, Isabel, and Bruce Monroe**

### *Some Dimensions of Simulation*

INSGROUP Inc., 1969, 13 p., copies available from INSGROUP (Instruction Systems Group) Inc., 640 Sea Breeze Drive, Sea Beach, Cal., 90740. (Abstracted in *Research in Education*, Vol. 49, No. 8, p. 102)

"Beginning with definitions of simulation (a methodology for testing alternative decisions under hypothetical conditions), this paper focuses on the use of simulation as an instructional method, pointing out the relationships and differences between role playing, games, and simulation. The term "simulation games" is explored with an analysis of six dimensions of simulated environments: reality and fidelity, complexity of decisions, curriculum content, source of model simulation and game; replicability, and evaluation. After a brief discussion of computer-based simulations games, the advantages and disadvantages of simulation as a method of instruction are listed. Included are a glossary of terms related to simulation and an annotated bibliography."

**Bilman, David Alan, and Nancey Ann Moreau**

### *"Effects of Reducing Verbal Content in Computer-Assisted Instruction"*

*AV Communication Review*, Vol. 17, No. 3, Fall 1969, pp. 291-298

Thirty-six students of low verbal ability from tile setting and plumbing classes were given verbal intelligence tests and a pretest and posttest measuring both mastery and transfer. The Ss were randomly divided into two 18-member groups. One group received low verbal content CAI, the other high verbal content CAI. Rationale behind the treatment was that students with low verbal ability may learn better when CAI had short, simple sentences rather than longer sentences with unusual words. Results indicated that the verbal content of a computer assisted instruction program can be significantly reduced without significantly decreasing the learning a student achieves through the program. Also, a low verbal content program took substantially less time than did a program with high verbal content. Further, there was a lower correlation between learning and intelligence for those students who studied under the low verbal content program.

**Bynum, Effie M.**

### *A Selected ERIC Bibliography on Pre-College Preparation of Students from Disadvantaged Backgrounds.*

ERIC-IRCD Urban Disadvantaged Series, Number 7. ERIC Clearinghouse on the Urban Disadvantaged, Columbia University, New York, N.Y. 10027 (Abstracted in *Research in Education*, Educational Research Information Center, Vol. 4, No. 9, Sep. 1969, p. 112, U. S. Government Printing Office, Washington, D.C. 20402)

"This annotated bibliography lists documents which are specifically related to pre-college preparation of students from disadvantaged backgrounds. It is organized into three sections: educational planning, description of programs and practices, and research and evaluation. The bibliography is compiled from selected reports in the ERIC system, covering the period from 1965 through April 1969. Also included is a brief listing of a variety of efforts initiated to counteract academic deficiencies and to enhance the educational opportunities of disadvantaged students."

**Copeland, James B.**

### *An Investigation of Four Television Teaching Feedback Techniques via a Closed Circuit System*

Ph.D. Thesis, University of Wisconsin, Madison, Wis., 1968, 136 p., Available from University Microfilms, 300 North Zeeb St., Ann Arbor, Mich., 48106, Order No. 66-13, 778, (Abstracted in *Research in Education*, Vol. 49, No. 8, p. 11)

"This study aimed at an investigation of four television teaching techniques via a closed circuit system. Eighty vocational agriculture students comprised four groups:

Group A viewed the program without any opportunity to participate in two-way communications or ask questions before or after the telecast, group B viewed the program as group A but had a group leader qualified to answer questions concerning subject matter, group C viewed the program as group A and, in addition, had two-way communication with the television instructor via telephone, group D viewed the program as group B and, in addition to a group leader, had two-way communication with the television instructor in the studio. An analysis of variance showed no significant overall effect due to the treatments and a multiple range test showed a significant difference only between the extremely high and the extremely low means - no teacher with phone being significantly lower than teacher without phone."

**Crews, James W., Glenna D. Carr, and Elizabeth F. Hunter**  
**"Micro-Teaching and Other Uses of Videotape in Teacher Training"**  
*American Vocational Journal*, Vol. 44, No. 6, Sep. 1969, pp. 58-59

Several uses can be made of videotaping in teacher training. A student teacher is videotaped while he conducts a brief lesson before a small class of his fellow students and instructor. The videotape is played back and can be used as a technique to point out the strengths and weaknesses of each individual's performance. Secondly, the teacher's performance can be videotaped in the high school classroom and played back at the end of class. Third, these tapes can be played back at seminars consisting of the college coordinator and other student teachers. Finally, the tape can be edited and a library of tapes pointing out "do's and don'ts" and good and bad presentations collected.

**Edgerton, Mills F., Jr., Ed.**  
*Sight and Sound: The Sensible and Sensitive Use of Audio-Visual Aids.*

Reports of the Working Committees of the Northeast Conference on the Teaching of Foreign Languages, 1969. Modern Language Association of America, New York, N.Y. 10011, 1969, 125 p. (Abstracted in *Research in Education*, Educational Research Information Center, Vol. 4, No. 9, Sep. 1969, p. 56, U.S. Government Printing Office, Washington, D.C. 20402)

"Included in this volume are the reports dealing with the effective use of audio-visual media in foreign language instruction and developed by the working committees of the sixteenth annual Northeast Conference on the Teaching of Foreign Languages. Six individuals prepared the media descriptions and selected the demonstrations described in the systematic presentation of each of the principal kinds of audiovisual materials available for classroom use and of the more important ways in which each can be used to enhance student experience and insight into a foreign language and its culture. Taken into consideration in these evaluations are such media as (1) nonprojected visuals (analysis by Brenda Frazier), (2) sound recordings (Jermaine Arendt), (3) slides and filmstrips (Hilary Hayden), (4) overhead projectors (James J. Wrenn), (5) motion pictures (Allan Gundstrom), and (6) television (Joseph Sheehan)."

**Engel, Gerald L.**  
*Computer-Assisted Instruction: A Selected Bibliography and KWIC Index*  
 Naval Weapons Lab., Dahlgren, Va., Apr. 1969, 179 p. (Abstracted in *U.S. Government Research and Development Abstracts*, Aug. 25, 1969, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151)

"This report consists of a KWIC index and an annotated bibliography by author containing 570 items."

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### *Evaluation in Vocational Education*

Research Summary. California Coordinating Unit for Occupational Research and Development, Sacramento, Cal., 81 p. (Abstracted in *Abstracts of Research and Related Materials in Vocational and Technical Education*, Summer 1969, p. 711, ERIC Clearinghouse, Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio)

"Due to rapid industrial and technological developments, evaluation of vocational education programs must be a continuous process. The product to be evaluated is an educated youth capable not only of entry into the labor market, but also of persisting and progressing in the occupation. Capsulated descriptions of evaluation research on vocational education programs are presented in: (1) Retraining Projects, (2) Agricultural Education, (3) Business Education, (4) Industrial Arts and Trade and Industrial Education, (5) Vocational Guidance, (6) Adult Education, (7) Teaching Methods, (8) Teaching Machines and Program Instruction, and (9) General Curriculum. The document also contains a comprehensive bibliography of books, dissertations, journals, bulletins, and research reports."

Hamilton, Jack A., and John D. Krumboltz

### 'Simulated Work Experience: How Realistic Should It Be?'

*The Personnel and Guidance Journal*, Vol. 48, No. 1, Sep. 1969, pp. 39-44

"One hundred 10th grade non-college-bound students were randomly assigned to receive two alternative types of materials: (a) experimental — an Electronic Technician Kit which required students to use an actual ammeter in solving problems representative of that occupation, and (b) control — a kit virtually identical with

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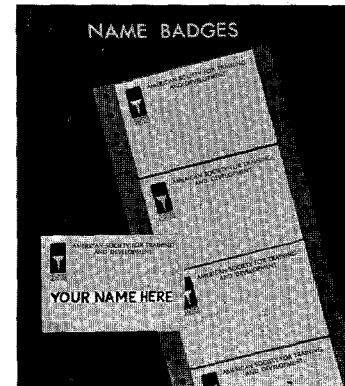
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the experimental treatment except that no meter was provided. The experimental subjects reported more enjoyment, wanted more information about an electronic technician career, wrote more questions about careers, and signed up to take more additional career kits than did the control subjects. However, the number of measured exploratory activities during the week after the treatments was too small to test for statistical significance."

**Holden, George S.**

**"The Effects of Computer-Based Resource Units Upon Instructional Behavior"**

*Journal of Experimental Education*, Vol. 37, No. 3, Spring, 1969, pp. 27-31

Computer-based resource units were developed to improve the individualization of instruction through unit teaching. Instructional behaviors of teachers were examined to see if this kind of computer aid brought about a change in the way teachers teach. A pre-post two group experimental design was used in which the data were collected by a group of trained observers using an instruction observation tool. Pre-post mean scores were tested and found to be significant in five out of seven dimensions of instructional behavior. Variety and kinds of instructional materials and methods were also examined. The data indicate that teachers who use computer-based resource units increase the number and improve the quality of many individualized instruction tasks.

**Keene, Jack**

**"Portable Videotape Recorders in Simple Closed Circuit Television Systems"**

*Audiovisual Instruction*, Vol. 15, No. 5, May, 1969, pp. 72-80

Educators often have a good idea of what they would like to attempt with video recorders in simple closed circuit TV systems, but they usually lack an understanding of the equipment required to carry out their ideas. On the other hand dealers have a good understanding of the equipment they sell but lack an understanding of what their educator customers wish to accomplish with the use of portable video recorders. As a result, buying or selling too much or too little or acquisition of noncompatible components is a frequent occurrence. This article offers a series of guidelines to help educators specify instructional procedures that utilize video tape recorders, and to identify video recorder performance capabilities required to get their specific instructional jobs done. The guidelines should also be useful in helping dealers specify equipment components, present demonstrations, make guarantees and give advice on the exact equipment needed.

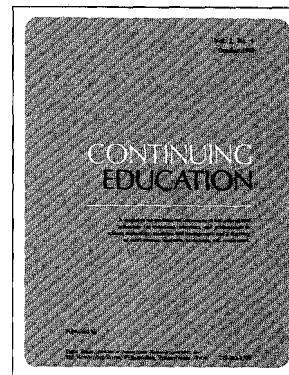
**Mahrer, Neil B.**

**"Training via Television"**

*Educational Television*, Vol. 1, No. 10, Aug. 1969, pp. 25-28

This article points out the failure of public and education television stations to use their facilities for business and industrial training and discusses the costs, problems, and benefits these stations and the public could gain if television was more widely used for training. The author also gives examples of stations who do use their facilities for training and lists the company members of the Television Training Institute. This organization was created to work on the problems involved in setting up television training and to help television stations find ways by which television training can pay its own way and serve business, industry and the entire community.

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### *The Manpower Development and Training Act: A Review of Training Activities*

Manpower Administration, Washington, D. C., August 1967, 28 p. (Abstracted in *Abstracts of Research and Related Materials in Vocational and Technical Education*, Summer 1969, p. 69, ERIC Clearinghouse, Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio)

"A general discussion of the history of the Title II training program briefly reviews accomplishments from its beginning in August 1962 through the end of 1966. During this period, training opportunities under institutional, on-the-job, and combination programs were authorized for over 835,000 persons at a cost of over \$1 billion. Training was conducted in all the major occupational groups and in more than 1,300 different occupations. About four-fifths of the graduates surveyed during the first year after training completion reported that they were employed. In response to changing labor market conditions, significant amendments to the Act were passed by Congress in 1963, 1965, and 1966, making it a dynamic and flexible statute to serve the Nation's ever-changing manpower profile. Manpower training presently focuses on the two major problems of emerging skill shortages in the economy and the serious employment problems of the disadvantaged with about two-thirds of the program effort being directed toward the latter problem. The present program emphasis will continue along with some new activities such as training for the part-time employed and for prison inmates, both results of the 1966 amendments to the Act."

### **Martin, Ann M.**

#### *A Multimedia Approach to Communicating Occupational Information to Non-college Youth*

Technical Report. University of Pittsburgh, Dec. 1967, 280 p. (Abstracted in *Abstracts of Research and Related Materials in Vocational and Technical Education*, Summer 1969, p. 69, ERIC Clearinghouse, Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio)

"The central purpose of the project's research efforts is its concentration on: (1) the placing of career development of noncollege bound in a learning theory framework, (2) how to communicate with and motivate the noncollege bound, and (3) the development of materials and techniques designed to provide the kind of stimulus that will permit an increase in the motivational levels of students and create conditions for the learning of those behaviors important to career planning and choice. A behavioral model on which to base guidance materials was developed by the project. This model includes three components that ought to be considered in conjunction with one another and are dependent upon one another namely, an informational component, a behavioral component, and a media component. These components allow a broad base for determining what career information is to be communicated and how it is to be communicated for a given guidance objective. Guidance curriculum units consisting of sample film modules and slide tapes for grades 8 through 12 were developed for use with noncollege disadvantaged youth. Audiovisual and other ancillary materials are in the planning and development stages."

### **Meyer, John K.**

#### *The Relative Efficiency of Pretesting and Two Types of Programmed Instruction for Solving Maneuvering Board Problems*

Naval Personnel Research Activity, San Diego, California, Navy Training Research Lab., Mar. 1969, 19 p. (Abstracted in *U.S. Government Research and Development Abstracts*, Aug. 25, 1969, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151)

"Study time for a large frame and a small frame type of programmed explanation in maneuvering solutions was compared using two equated, pre-tested groups of enlisted men in a basic CIC techniques course, and two equated groups assigned to basic electricity and electronics training. It was found that, by using pretesting, as

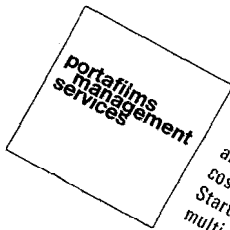
many as 60 percent of the CIC techniques students could save study time by entering the learning program at an advanced level, and that as much as 42 percent of study time could be saved by using a few large rather than many small frames."

Neidermeyer, Fred, Jerry Brown and Bob Sulzen  
 "Learning and Varying Sequences of Ninth-Grade Mathematics Materials"

*Journal of Experimental Education*, Vol. 37, No. 3, Spring, 1969, pp. 61-67

This experiment compared three sequence versions (logical, scrambled, and reverse frame orders) of the guided discovery program, Number Series, used by Gagne and Brown in their 1961 study. Sixteen ninth grade algebra students in each of the three sequence groups plus a control group served as the subjects. While the logical order group was the only sequence group to perform significantly better than the controls on both a test of concepts and a problem solving test, none of the three sequence groups differed significantly from each other on posttest performance. Logical group students did, however, make significantly fewer program errors. They also tended to see the program as interesting whereas scrambled and reverse order groups felt neutral about the program.

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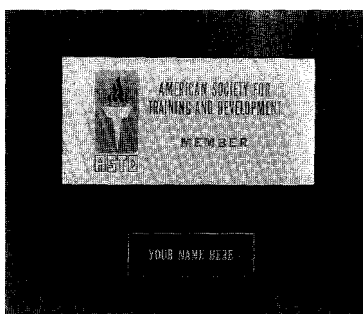
Rostow, Eugene V.

*Future Opportunities for Television. Part II*

President's Task Force on Communication Policy, Washington, D.C., June 1969, 248 p. (Abstracted in *U.S. Government Research and Development Abstracts*, Aug. 25, 1969, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151)

"The purpose of this study is to explore ways in which modern communications technology can improve life in the urban ghetto. In particular we are concerned with the potential roles of tele-communications, including radio and television, for improving education and increasing community awareness and participation among ghetto dwellers and for enhancing the flow of important public and social service information within the ghetto. The study consists of three major sections. The first is devoted to the role of television in education. The second concerns itself with the transfer of information concerning social and public services within the ghetto and how improved communications can enhance this flow. Among other results, these studies will define channel and time requirements commensurate with the programming and information flow objectives. These requirements are consolidated in the third section of the study, which structures several potential systems for achieving the desired communications objectives and designates areas of major future concern for improvement. Pilot or demonstration projects are suggested that will enable one to determine the nature and feasibility of the benefits outlined in the previous sections, to evaluate them, and to explore the institutional arrangements necessary for their achievement."

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Semmel, M. I.

*A Computer-Assisted Teacher Training System*

Center for Research on Language and Language Behavior, University of Michigan, Ann Arbor, Mich., 63 p., (Abstracted in *Research in Education*, Vol. 49, No. 8, p. 101, ERIC Clearinghouse on Teacher Education, American Assn. of Colleges for Teacher Education, Washington, D.C., 20005)

"This series of working papers represents early stages in the development of a versatile and economical Computer-Assisted Teacher Training System (CATTS) for special educators, a system capable of providing immediate visual feedback of data relevant to teacher-pupil interaction in a classroom setting. Part I discusses the problem of existing systems of classroom analysis, Part II discusses the philosophical rationale and cybernetic model guiding development of CATTS, Part III presents an overview of the initial pilot demonstration study with CATTS, Part IV is a description and preliminary evaluation of four visual display programs developed for CATTS, and Part V reviews the literature relevant to major facets of CATTS."

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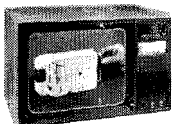
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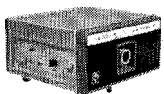
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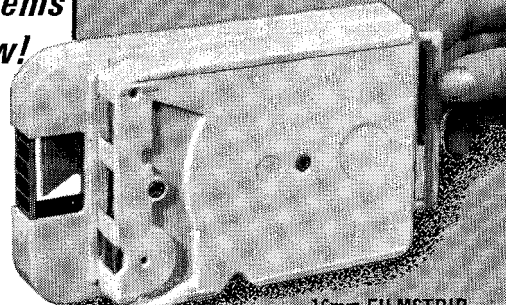
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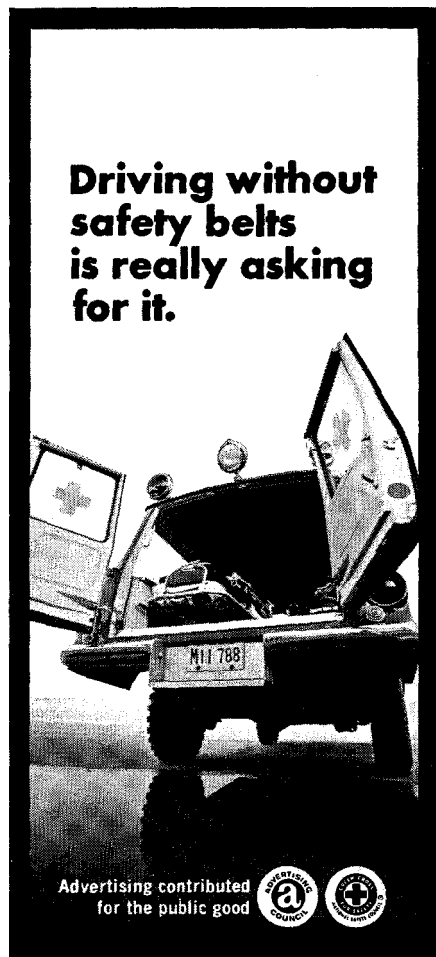
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Smith, Robert D.

**"Integrated Information Systems for Higher Education: A Heuristic Approach"**

*International Journal of Educational Sciences*, Vol. 3, No. 1, pp. 69-82

Operations researchers and social scientists have made significant contributions to the field of education. Typically, however, the contributions have been specialized and closely related to either the quantitative or behavioral areas. The purpose of this paper is to report on a research project using concepts from both areas in the development of an integrated information decision system for institutions of higher learning. The paper (1) describes the nature of heuristics as applied to computer simulation of human thought processes, (2) reports of several successful applications of cognitive simulations, (3) demonstrates the methodology used to simulate the decision processes of a college advisor, and (4) illustrates how the simulation program can be integrated in a total educational information system for more efficient use of human and capital resources. Behavioral theories regarding motivation, personality, and learning, are also introduced in an attempt to provide an integrated approach to the collection and dissemination of accurate, timely and objective information for more scientific management of the process of higher education.

*What Can You Do About the Hard-Core Unemployed?*

The Research Institute of America, 589 Fifth Avenue, New York, N.Y. 10017, June 1968, 84 p. (Abstracted in *Research in Education*, Educational Research Information Center, Vol. 4, No. 9, Sep. 1969, p. 58, U. S. Government Printing Office, Washington, D. C. 20402)

"American business has received a challenge from the federal government in a national experiment to find jobs for 500,000 "unemployables." The major purpose of this descriptive report was making decisions concerning participation in the program. The content includes sections on: (1) Who Are the Hard-Core, (2) The Ingredients for Success, (3) The Problem of Recruiting, (4) Screening, Interviewing and Testing, (5) A Candid View of the Training Problem, (6) Anticipate Personal Problems, (7) Getting Help from the Government, and (8) Industry and the Community. The appendixes contain local sources of help in 80 major cities throughout the United States, regional offices of key manpower agencies, private sources of training assistance, and a glossary of agencies engaged in working with disadvantaged youth and hard-core unemployed."

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