

DOCUMENT RESUME

ED 084 650

EA 005 625

TITLE ERIC Abstracts: A Collection of ERIC Document Resumes on Educational Planning. ERIC Abstracts Series, Number Twenty-seven.

INSTITUTION American Association of School Administrators, Washington, D.C. National Academy for School Executives.; Oregon Univ., Eugene. ERIC Clearinghouse on Educational Management.

SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.

PUB DATE 73

CONTRACT OEC-0-8-080353-3514

NOTE 26p.; A related document is E: 046 091

AVAILABLE FROM National Academy for School Executives, 1801 North Moore Street, Arlington, VA 22209 (Stock Number 021-00402, \$2.00, Quantity Discounts)

EDRS PRICE MF-\$0.65 HC-\$3.29

DESCRIPTORS Annotated Bibliographies; *Cost Effectiveness; *Decision Making; Educational Administration; Educational Needs; Educational Objectives; *Educational Planning; Educational Policy; Linear Programming; *Literature Reviews; Management Systems; Organization; Program Budgeting; Program Planning; Social Planning; Systems Analysis; *Systems Approach

ABSTRACT

Eric abstracts on educational planning, announced by this and other clearinghouses in RIE through April 1973, are presented. This abstract compilation updates an earlier ERIC Abstract on educational planning, and it contains all those documents that deal with the theories and techniques of planning education. The key term used in compiling this collection is "Educational Planning." The following information is presented for each document: personal or institutional author, title, place of publication, publisher, publication date, number of pages, ERIC document ("ED") number, price of the document if it is available from the ERIC Document Reproduction Service, and the abstract. The documents are numbered and listed alphabetically by the authors' last names. A subject index refers to the document listing number. The subject terms, arranged in alphabetical order, are identical to those contained in the subject index of RIE. (Author)

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ERIC Abstracts

A Collection of ERIC Document Resumes on

Educational Planning

Compiled by

the

ERIC Clearinghouse on
Educational Management
University of Oregon
Eugene, Oregon 97403

1973

EA 005 625

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PREFACE

The Educational Resources Information Center (ERIC) is a national information system operated by the National Institute of Education. ERIC serves the educational community by disseminating educational research results and other resource information that can be used in developing more effective educational programs.

The ERIC Clearinghouse on Educational Management, one of several clearinghouses in the system, was established at the University of Oregon in 1966. The Clearinghouse and its companion units process research reports and journal articles for announcement in ERIC's index and abstract bulletins.

Research reports are announced in Research in Education (RIE), available in many libraries and by subscription for \$38 a year from the United States Government Printing Office, Washington, D. C. 20402. Most of the documents listed in RIE can be purchased through the ERIC Document Reproduction Service, operated by Leasco Information Products, Inc.

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Besides processing documents and journal articles, the Clearinghouse has another major function--information analysis and synthesis. The Clearinghouse prepares bibliographies, literature reviews, state-of-the-knowledge papers, and other interpretive research studies on topics in its educational area.

The ERIC Abstracts series is the result of a cooperative arrangement between the Clearinghouse and the National Academy for School Executives (NASE) of the American Association of School Administrators. The Clearinghouse compiles the abstracts from document resumes in Research in Education to provide participants in a series of NASE-sponsored seminars with an up-to-date collection of ERIC materials on subjects to be presented in these seminars. Additional copies of the abstracts are published by NASE and distributed across the country to school administrators and others interested in educational administration.

Philip K. Piele
Director, ERIC Clearinghouse
on Educational Management

The material in this publication was prepared pursuant to a contract with the National Institute of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Prior to publication, the manuscript was submitted to the American Association of School Administrators for critical review and determination of professional competence. This publication has met such standards. Points of view or opinions, however, do not necessarily represent the official view or opinions of either the American Association of School Administrators or the National Institute of Education.

ERIC Abstracts Series, Number Twenty-seven

Published by

National Academy for School Executives
1801 North Moore Street
Arlington, Virginia 22209

Single copy, \$2.00

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AASA Stock number: 021-00402

INTRODUCTION

Since the beginning of ERIC in 1966, more than sixty thousand documents have been announced in ERIC's monthly catalog, Research in Education (RIE). Of the total, about five thousand documents have been processed by this Clearinghouse. This growing collection is so extensive that it is useful to compile lists of ERIC documents on a number of critical topics in educational management. Published separately, these selected lists of documents make up the ERIC Abstracts series.

To compile each list, the RIE subject indexes are searched, using key terms that define the topic. The documents are selected on the basis of currency, significance, and relevance to the topic.

This abstract is an update of an earlier ERIC abstract on educational planning. All documents were indexed in RIE under the term EDUCATIONAL PLANNING and deal with theories and techniques of planning education. The listing is complete for all issues of RIE through June 1973 and includes documents processed by this and other clearinghouses.

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1. Alameda County School Department. Fault Tree Analysis: A Research Tool for Educational Planning. Technical Report No. 1. Hayward, California: Projects to Advance Creativity in Education Center, 1966. 97 pages. ED 029 379 MF \$0.65 HC not available from EDRS.

This report describes fault tree analysis and assesses its applicability to education. Fault tree analysis is an operations research tool designed to increase the probability of success in any system by analyzing the most likely modes of failure. A graphic portrayal in the form of a tree is constructed by a series of logical steps, and the possibility of failure is illustrated at each step. Mathematical formulas based on probability of occurrence of individual events are applied to determine the critical path leading to an undesired event. Among the many advantages of this technique is its usefulness as a device for evaluating processes. Most techniques evaluate products. The report includes a history of fault tree analysis, principles of fault tree construction, a prototype fault tree with analysis, and an evaluation of fault tree analysis as an educational research and planning technique. Although many technical problems remain to be solved, fault tree analysis holds great promise for application to education.

2. Alaska State Department of Education. Statewide Planning for Programs in Education, Alaska State Department of Education. Juneau: [1968]. 40 pages. ED 022 587 MF \$0.65 HC \$3.29.

The projected changes in society by 1980 and the implications of those changes for education, government, and society form a backdrop for this proposed project of statewide planning in Alaska. A strong state department of education is termed an integral part of the concept of creative federalism, a partnership in which federal, state, and local school interests operate as equals, each assuming the responsibility to perform the educational functions most appropriately dealt with at that level. A statewide program of individualized instruction could weld the various agencies of the state education department into a unified force to meet the problems of local school districts and eventually to develop a program of total planning and cooperation for local and state agencies.

3. Alkin, Marvin C., and Bruno, James E. Systems Approaches to Educational Planning. Eugene: Center for the Advanced Study of Educational Administration, University of Oregon, 1970. 54 pages. ED 049 563 Document not available separately. (Available as part of Social and Technological Change. Implications for Education. CASEA Monograph 22. ED 044 833 MF \$0.65 HC \$13.16. Or from: Publications Department, CASEA, University of Oregon, Eugene, Oregon 97401. \$3.75.)

Any general systems approach has five basic elements: objectives, alternatives, costs, model or models, and the decision rule. The researcher

should be able to specify objectives, select alternatives, determine the cost of each alternative, develop a representative model to predict the extent to which each alternative will achieve the specified objective, and arrange the alternatives in order of preference. Differences among various systems approaches relate to emphasis. For example, systems analysis emphasizes objectives and alternatives, PPBS emphasizes costs, and operations research emphasizes models. The application of systems approaches to educational planning will increase as the supply of trained personnel increases and techniques of systems analysis become more refined.

4. Benson, Charles S. "How the American Education System Looks from the Standpoint of Systematic Planning." Paper presented at American Educational Research Association annual meeting, New York, February 1971. 23 pages. ED 048 642 MF \$0.65 HC \$3.29.

Comparative analysis of educational planning in Pakistan and the United States illustrates the potential of educational planning and the one-sided approach to planning practiced in America. In Pakistan, the centralized government coordinates all planning activities, and educational planning is only one part of an integrated planning program for political, social, and economic needs. In the United States, planning is diffused and fragmented throughout federal and local governments, little attention is given to long-range planning, and existing long-range planning efforts are concentrated on financial accounting. Proper planning in the United States must concern itself with qualitative improvement rather than quantitative expansion.

5. Burr, Donald F. Simu-School: A Tool and Process for Educational Planning. Final Report. Washington, D. C.: American Institute of Architects, 1971. 91 pages. ED 055 366 MF \$0.65 HC \$3.29.

The greatest challenge facing education today is the need to plan adequately for the future. Effective educational planning can occur only if all elements of the community are involved in the decision-making process, the relevant factors and variables in the educational environment are considered, and the nature of the learning/teaching process is understood. As proposed, simu-school would use simulation techniques to recreate the educational planning process. Utilizing a management information system as an educational tool, simu-school would create a time-compressed simulation of a series of planning problems. With this technique, educational and community planners could become involved and experience the results of their decisions within a few days rather than several years.

6. Caldwell, Michael S. Input Evaluation and Educational Planning. Columbus: Evaluation Center, Ohio State University, 1968. 23 pages. ED 025 043 MF \$0.65 HC \$3.29.

Educational programs, regarded as inputs, may be developed within a procedural framework to achieve outputs of desired change and improvement. Eight criteria for assessing plans and strategies are relevance, legality, congruence, legitimacy, compatibility, balance, practicability, and cost-effectiveness.

7. Carman, Robert A. Linear Programming with Applications to Educational Planning. 1971. 36 pages. ED 051 563 MF \$0.65 HC \$3.29.

This document discusses the value of linear programming in finding minimum and maximum solutions to problems of resource allocation. Three models of this technique are applied to educational finance, school district personnel compensation, and instructional program evaluation.

8. Chuang, Ying C. "An Educational Planning System: Cost-Effectiveness Approach." Paper presented at Operations Research Society of America national meeting, New Orleans, April 1972. 11 pages. ED 061 644 MF \$0.65 HC \$3.29.

Current planning practices have a number of shortcomings: objectives and activities are rarely clear or concrete, too few alternatives are presented for consideration by top management, future costs of present decisions are seldom laid out systematically, and systems analysis has too little effect on budget decisions. To help remedy these faults, the cost-effectiveness planning system described in this paper is being processed for possible use in educational communications.

9. Coombs, Philip H. What Is Educational Planning? Fundamentals of Educational Planning-1. Paris, France: International Institute for Educational Planning, United Nations Educational, Scientific, and Cultural Organization, 1969. 61 pages. ED 052 510 Document not available from EDRS. (Available from UNIPUB, Inc., P. O. Box 443, New York, New York 10016. B.2717, \$2.00.)

This report is intended for persons engaged in or preparing for educational planning and administration, especially in developing countries, and for government officials and civic leaders seeking a general understanding of educational planning and its role in overall national development. The booklet traces the historical development of educational planning, indicates some future trends in planning, and discusses three current approaches to planning: social demand, manpower, and rate of return. The author foresees a need for more forms of microplanning applicable to the inner processes of the educational system and its numerous subsystems. Eventually, educational planning will include refinement of objectives, evaluation of system performance, a systems approach to educational design, new management styles and measures (including program budgeting,

program evaluation and review techniques, and techniques of cost benefit analysis), and intensified research and development.

10. Delaware State Department of Public Instruction. Planning Monographs. Dover, Delaware: Division of Research, Planning, and Evaluation, 1971. 64 pages. ED 056 386 MF \$0.65 HC \$3.29.

Seven monographs survey the issues and problems of sensitivity training; differentiated staffing; planning, programming, budgeting systems; systems analysis; the delphi technique; performance contracting; and educational vouchers. The papers are designed as a matrix for reference and planning. A short bibliography accompanies each presentation.

11. Educational Service Bureau, Inc. Systems Planning in Public Education. Arlington, Virginia: Administrative Leadership Service, 1968. 32 pages. ED 026 743 Document not available from EDRS. (Available from Administrative Leadership Service, Division of Educational Service Bureau, Inc., 610 Madison Street, Alexandria, Virginia 22314. \$4.00.)

This study, based primarily on the experience of Seattle, Washington, deals with the application of the systems approach to educational planning. The first section defines and describes the concept of a system and the systems approach and gives a general introduction to the use of systems analysis. The second section relates the development and use of the systems approach by the Seattle School District, with particular attention to the process of planning for the use of systems analysis. The third section covers planning theory, including the administrator's role, the meaning of systems planning, dimensions of systems planning, the planning process, and categories of educational plans. The final section focuses on organization and procedures for planning, including the functions of an instructional development council, the origin of ideas and routing of plans for instructional improvement, improvement of management, authorization for planning, parts of a plan, integration of planning, and the implementation of plans. The study concludes by suggesting sources of assistance in developing a systems approach to educational planning.

12. Elam, Stanley, and Swanson, Gordon I., editors. Educational Planning in the United States. Symposium on Educational Requirements for the 1970's, an Interdisciplinary Approach (2nd). 1969. 216 pages. ED 043 956 Document not available from EDRS.

Five papers compose this book of Phi Delta Kappa symposium proceedings. Philip Smith, in "Objectives for American Education," theorizes that the United States can afford a sophisticated, dedicated profession to run the schools, and that educational leaders must become dedicated or be replaced. In "The Status of Educational Planning in the United States,"

Francis Chase summarizes state and federal activities and predicts the emergence and widespread adoption of new concepts and technologies of planning. Kjell Eide, in "The Planning Process," defines planning in general terms, examines its position relative to other administrative functions, and investigates the conditions for a successful planning process. William McLure, in "Planning Adjustments in the Educational System," identifies some areas needing differentiated planning and elements constituting a rational planning design. "Some Theory of Planning for Education," by Andre Daniere, concerns planning in general. Each paper is followed by a roundtable discussion by participants in the symposium.

13. El-Ghannam, Mohamed A. "Politics in Educational Planning. IIEP Occasional Papers No. 19." Paper prepared as part of International Institute for Educational Planning 1969-70 Expert Fellows' Programme, Paris, France: International Institute for Educational Planning, United Nations Educational, Scientific, and Cultural Organization, 1970. 64 pages. ED 058 625 MF \$0.65 HC not available from EDRS.

Planning, including educational planning, is by nature a political activity. Educational planning begins with, operates through, and ends with politics. Since politics is a crucial factor in determining the nature and effectiveness of a plan, to be efficient planners management personnel and other planners should study politics and calculate the political factors. Because planning is a political activity, it produces political consequences. Planners should be aware of these consequences and use them as feedback for further planning activities.

14. Cass, J. R. Planning the Educational Revolution. The Fundamentals of Educational Planning: Lecture-Discussion Series No. 43. Paris, France: International Institute for Educational Planning, United Nations Educational, Scientific, and Cultural Organization, 1969. 7 pages. ED 058 630 MF \$0.65 HC not available from EDRS.

In a controlled experiment, the International Institute for Educational Planning attempted to develop efficient teaching materials in the field of educational planning. Informal instructional materials were compiled from tape recordings, transcriptions, and summary notes of seminars, lectures, and discussions conducted by the IIEP in its training and research program. This instructional unit discusses the necessity of planning educational innovations and creating social conditions conducive to change instead of permitting changes to occur haphazardly.

15. Greenfield, T. Barr. Developing and Assessing Objectives for School System Planning. A Report. Toronto, Canada: Department of Educational Administration, Ontario Institute for Studies in Education, 1972. 63 pages. ED 060 573 MF \$0.65 HC \$3.29.

This study reports the findings of a survey taken in May 1971 to identify and assess educational objectives in York Borough, Toronto. The first section of the report discusses objective-setting in relation to planned decision-making in schools and demonstrates the importance of objectives in planning. Later sections describe the design and findings of the survey. The remaining sections summarize the findings and discuss their implications for educational planning in York Borough.

16. Grotelueschen, Arden D., and Gooler, Dennis D. "A Role of Evaluation in Planning Educational Programs." Paper presented at American Educational Research Association annual meeting, New York, February 1971. 15 pages. ED 052 221 MF \$0.65 HC \$3.29.

While evaluation means different things to different people, the focus of evaluation is characteristically on what has been done or is being done. Evaluation should also be applied to things not yet done; evaluation has a significant and continuous role in planning any educational program. Evaluation facilitates fulfillment of the four basic functions of planning by identifying program goals, defining alternative means of attaining those goals, indicating the possible consequences of each alternative, and providing data for resource allocation. This paper considers methods of operationalizing the preceding concepts and procedures for determining priorities among goals and means, and discusses the inclusion of this data into educational planning.

17. Haggart, Sue A. "Program Cost Analysis in Educational Planning." Paper prepared for American Educational Research Association-American Association of School Administrators Joint National Conference on Performance Contracting in Education, Washington, D.C., December 1971. Santa Monica, California: The Rand Corporation. 41 pages. ED 063 046 MF \$0.65 HC \$3.29. (Also available from Publications Department, The Rand Corporation, 1700 Main Street, Santa Monica, California 90406. Document P-4744, \$2.00.)

This paper describes a planning cost model for estimating the comparable replication cost of an educational program in order to evaluate alternative programs and plan future programs. The conceptual and methodological bases of cost analysis are explored and the shortcomings of present methods for comparison and evaluation of educational programs detailed. The proposed model presents a framework for bringing together the resources (facilities, staff, equipment, and materials) required to carry out an educational program and for relating those resources to program output in the form of activities. These relationships provide information on the relative merits of selected changes in the activity structure of a total program, and on the cost consequences of changes in the resource utilization rate or in resource cost. Comparable replication

costs for several different programs are estimated to illustrate the use of the model.

18. Hinds, Richard H. Educational Program Planning and Related Techniques. Annotated Bibliography. Unpublished Report. Miami, Florida: Dade County Public Schools, 1969. 15 pages. ED 029 375 MF \$0.65 HC \$3.29.

The ninety-seven entries in this annotated bibliography concern the problems and techniques of comprehensive program planning and are directed to those educators conceding the relevance of systems analysis, cost-benefit studies, and mathematical models to the planning processes of a large school system. A section on educational and program planning includes studies dealing with the needs and problems of comprehensive and long-range planning by educational institutions. A section on program analysis techniques contains entries on the use of specific techniques, such as systems analysis and operations research, in analysis of educational and related problems. A section on planning, programming, budgeting systems includes documents applying principally to the interface between planning and budgeting.

19. International Institute for Educational Planning. Educational Planning: A Bibliography. Paris, France; 1964. 141 pages. ED 035 982 MF \$0.65 HC \$6.58.

A listing of eleven annotated bibliographies on educational planning is followed by four major sections containing brief descriptions of over five hundred items related to educational planning in both developed and developing nations. Most of the items (books, articles, monographs, seminar and conference papers, and research reports) were published between 1960 and 1964. All annotations are in English and cite availability of items in languages other than the original. The four sections concern the purpose and value of educational planning, the preparation of educational plans, the organization and administration of educational planning, and case materials. Subject divisions within each section include basic texts, education and economic and social development, statistics in educational planning, the economics of education, the manpower and human resources approach to educational planning, the supply of teachers, new teaching techniques, the implementation of plans, and the administration of educational planning.

20. Jallade, Jean-Pierre. Educational Planning Methods. Background Study No. 8. Conference on Policies for Educational Growth. (Paris, France, June 3-5, 1970.) Paris, France: Committee for Scientific and Technical Personnel, Organisation for Economic Cooperation and Development, 1970. 62 pages. ED 069 023 MF \$0.65 HC \$3.29.

The main approaches to educational planning as practiced in the member countries of the Organisation for Economic Cooperation and Development are the social demand approach, which subsumes current and supplementary demand; the investment in education approach; and the manpower needs approach. The text also reviews the contemporary use of mathematical models in educational planning and relates problems of planning and forecasting methodology. The author attempts to reconcile the three planning approaches by combining the sociopolitical criteria of social demand, the economic and financial rationale required in cost-benefit analysis, and the technological requirements of industrial society.

21. Johns, Roe L., and Morphet, Edgar L. Planning School Finance Programs. A Study Guide. Gainesville, Florida: National Educational Finance Project, 1972. 86 pages. ED 063 683 MF \$0.65 HC \$3.29.

This monograph presents information and suggestions on alternative provisions and procedures for planning and effecting needed changes in education. It outlines the kinds of studies needed to facilitate rational planning, describes how those studies should be conducted, and identifies the personnel to make the studies. Although the major focus is on effecting improvements in provisions for financing schools, many of the observations and suggestions should be helpful to state officials and legislators, planning agencies, and other groups concerned with studies and proposals relating to provisions for all aspects of education. The subjects covered include organization for state planning and coordination—some alternatives; organization and procedures for planning and effecting improvements in education; studies of educational needs and programs; studies of financial provisions and needs; analysis of alternatives; and constitutionality of alternative models.

22. Jung, Charles C., and others. An Orientation and Strategy for Working on Problems of Change in School Systems. Washington, D. C.: National Training Laboratories, 1967. 23 pages. ED 012 513 MF \$0.65 HC \$3.29.

A planned approach to educational change focuses on the internal functioning of the school system. Research generalizations that indicate conditions influencing learning form the basis for a conceptual model from which are derived some school system organizational functions needing development. Five levels of human phenomena condition the process of resource utilization in fulfilling the learning experience of the child: the pupil as self, the classroom peer group, direct workers creating learning experiences (teachers), persons influencing the direct workers (principals), and persons who influence the school system as an organization. If learning conditions are to be maximized, a clear conceptual model of the learning process is essential. Elements of such a model would include learning through inquiry, the individualization of learning, development of pupil

purpose and self-concept, pupil involvement in curriculum planning, use of a wide variety of resources, and cross-ability and cross-age helping. To initiate these concepts, the Michigan Region Cooperative Project for Educational Development (COPED) strategy for planned change involves the organization of materials conceptualizing planned change in a form appropriate for sharing with school system representatives, interuniversity collaboration, and university team relationships with selected school systems in its region. Twenty-five representatives of systems in the Michigan region were invited to a conference explaining the purposes and procedures of COPED. The conference outlined steps for creating an action-research collaboration system and for identifying change efforts and meeting the needs of different systems. The program should achieve institutionalization of change procedures, system adoption of desirable change efforts, and documentation and evaluation of the process to permit dissemination of the change model to other systems.

23. Knezevich, S. J. "Systems Analysis and Its Relationship to Educational Planning." Paper presented at Western Canada Administrators Conference, Banff, Alberta, October 1969. 23 pages. ED 036 895 MF \$0.65 HC \$3.29.

From the systems viewpoint, educational planning is the mechanism through which the educational system makes its goals specific and adapts its priorities, resources, and operational patterns to the changing environmental forces of its particular society. The systems-oriented administrator is a change agent and innovative strategist who delegates responsibility for basic operations and places a premium on executive functions concerned with goals, planning, and coordination. Application of the systems approach to education includes development of alternative plans for optimum resource utilization, generation of models to clarify system relationships, and mastery of quantitative analytic techniques. Major components or subsystems include the setting of goals and priorities, resources, control, client service, educational manpower development, environment relations, and student manpower reentry and retraining. Newer tools available to the systems-oriented educational administrator include techniques related to planning control (PERT and PPBS) and serendipity, the art of discovering and utilizing the unexpected.

24. Kravetz, Nathan, editor. Management and Decision-Making in Educational Planning. Contributions to International Institute for Educational Planning seminar, Paris. July 1970. Paris, France: International Institute for Educational Planning, United Nations Educational, Scientific, and Cultural Organization. 232 pages. ED 053 444 MF \$0.65 HC \$9.87.

The 1970 International Institute for Educational Planning seminar focused on administrative, management, supervisory, and decision-making

techniques useful in the educational planning process. The techniques studied include Delphi; program evaluation and review technique (PERT); and planning, programming, budgeting systems (PPBS). Experts presented papers on the techniques, and seminar participants later formed into working groups to study the application of the techniques to educational planning and decision-making problems. Papers written by members of the working groups are included.

25. Levine, Donald M., and others. A Symposium on Educational Planning and Program Budgeting: An Analysis of Implementation Strategy. Papers presented at American Educational Research Association annual meeting, New York, February 1971. Santa Monica, California: The Rand Corporation. 77 pages. ED 060 534 MF \$0.65 HC \$3.29. (Also available from Communications Department, The Rand Corporation, 1700 Main Street, Santa Monica, California 90406. \$3.00.)

A symposium examined some critical planning, programming, budgeting implementation problems, suggested alternatives to current practices in educational program budgeting, replied to some criticisms of the effectiveness of program budgeting as a resource allocation and planning tool, and considered the future role of program analysis in education. This report is composed of four symposium papers: "The Program Structuring Aspect of PPB for Education," by Sue A. Haggart; "Analysis of Educational Programs," by Polly Carpenter; "Organizational Development and PPB for Education," by C. Brooklyn Derr; and "Achieving Balanced Implementation of Program Budgeting for Education," by Donald M. Levine. The papers are followed by discussion and a transcribed question and answer session.

26. Levine, Donald M., and others. "Educational Planning with Organizational Development (OD): A People Involving Approach to Systematic Planning. A Working Paper." Paper presented at American Educational Research Association annual meeting, Chicago, April 1972. 23 pages. ED 071 189 MF \$0.65 HC \$3.29.

Planning, programming, budgeting (PPB) is an approach to rationalizing budgeting and to strengthening analysis as a policy change and planning tool. Organizational development (OD) applies behavioral science research to organization to enhance the commitment and involvement of personnel for smoother and more effective system functioning. Implementation of PPB can be facilitated by proper attention to the management philosophies of OD. By the concerted, coordinated use of these approaches, planning and system growth will be considerably improved. This paper discusses the special philosophies of OD in planning contexts, examines the problems encountered in federal implementation of PPB, develops a paradigm to specify the proposed PPB-OD interaction, and details the special contribution OD can make to PPB processes.

27. McNamara, James F. "Mathematical Programming Models in Educational Planning." Paper presented at American Educational Research Association annual meeting, New York, February 1971. Eugene: Center for the Advanced Study of Educational Administration, University of Oregon. 50 pages. ED 057 437 MF \$0.65 HC \$3.29.

This document defines and discusses educational planning, gives a brief overview of mathematical programming with an explanation of the general linear programming model, and reviews some recent applications of mathematical programming techniques to educational planning problems, noting the implications of those applications for educational research. Applications of linear programming at the national, state, and local levels are detailed, with emphasis on local school district problems. The paper concludes with some directions and implications for future research and a discussion of mathematical programming applications in light of recent developments in educational planning, programming, budgeting systems.

28. Miklos, E., and others. Perspectives on Educational Planning. Edmonton, Alberta: Human Resources Research Council, 1972. 177 pages. ED 066 787 MF \$0.65 HC \$6.58.

Readers beginning to study educational planning will find this overview a useful point of departure for a more intensive examination of educational planning literature. The first chapter defines the concepts that are the subjects of following chapters. The second chapter discusses educational planning and develops the thesis that planning objectives, structures, and outcomes are shaped by the general educational policies that elicited the planning activities. The third shifts attention from the more quantitative aspects of educational planning to the qualitative considerations of innovation, technological forecasting, and alternative futures. The fourth chapter concerns two major problems meriting the attention of both the theorist and the practitioner: the problem of bias in prescriptive theory and the gap between planning theory and practice. The fifth chapter's description of planning at a provincial level presents both an empirical report and some methodological problems in researching planning behavior. The text concludes by offering some prescriptive theory with a set of guidelines for the development and improvement of educational planning at various levels.

29. Nutt, Andy. Planning for the Business of Education. [1970]. 26 pages. ED 059 528 MF \$0.65 HC \$3.29.

There are two levels of planning: strategic and operational. Strategic planning occurs at the upper levels of management and relates to the long-range objectives of an organization. Operational planning takes place at the middle or lower management echelon and concerns the

implementation of strategic plans. The chief administrator must assemble a planning staff and give support and guidance to its efforts. The administrator must also assure that the proper planning organization is created and that it functions effectively to ensure the development of strategic and operational plans.

30. Organisation for Economic Cooperation and Development. Social Objectives in Educational Planning. Study Group in the Economics of Education and Educational Investment and Planning Programme. Paris, France: 1967. 298 pages. ED 057 475 MF \$0.65 HC \$9.87. (Also available from OECD Publications Center, 1750 Pennsylvania Avenue NW, Washington, D.C. 20006. \$6.50.)

The eleven papers in this volume focus on the problem of creating educational policies to equalize educational opportunities. Six papers in the first section analyze the social disparities in educational participation, the sociological factors in educational demand, the clientele of comprehensive secondary schools, and the trends in higher education enrollment. The second section consists of five papers designed to establish educational policies to equalize educational opportunity. This section discusses the implications of regional inequality in France and Sweden, inequality in the English social selection processes, and educational policies for culturally disadvantaged students.

31. Organisation for Economic Cooperation and Development. Systems Analysis for Educational Planning. Selected Annotated Bibliography. Paris, France: 1969. 196 pages. ED 057 471 MF \$0.65 HC \$6.58. (Also available from OECD Publications Center, 1750 Pennsylvania Avenue NW, Washington, D.C. 20006. \$6.00.)

This bibliography describes the contents of selected publications relevant to the study of systems analysis in educational planning. The citations and annotations, in both English and French, are organized into eight categories: the uses of systems analysis in educational planning, selected systems analysis techniques applied to education, systems analysis applied to specific educational problems, data processing and information systems in education, quantitative methods, manpower and economic growth, bibliographies, and conference papers.

32. Piele, Philip K. "Planning Systems in Education." r & d perspectives (Winter 1969), pp. 4-6. Eugene: Center for the Advanced Study of Educational Administration, University of Oregon. 5 pages. ED 025 855 MF \$0.65 HC \$3.29.

Sixteen selected documents processed by the ERIC Clearinghouse on Educational Administration deal with the application of several kinds of planning

systems to educational programs. Planning, programming, budgeting systems (PPBS), program evaluation review technique (PERT), and various planning models are given particular attention.

33. Riffel, J.A., and Miklos, E., editors. Social Goals, Educational Priorities, and Dollars: Planning Education in the Seventies. Proceedings of the Invitational Conference on Educational Planning Sponsored by the Alberta Human Resources Research Council and the Canadian Council for Research in Education. (October 18-21, 1970.) Ottawa, Ontario: Canadian Council for Research in Education, 1970. 129 pages. ED 057 421 MF \$0.65 HC \$6.58.

Twelve conference papers are arranged in five categories: social research and public policy, the need to plan, unlimited social objectives and scarce resources, institutional responses to pressures for planning, contemporary approaches to planning in education, and social priorities and resource allocation.

34. Rittenhouse, Carl H., and Chorness, Maury H. "A Survey of the Decision Processes and Related Informational Requirements for Educational Planning and Innovation." Paper presented at Western Psychological Association convention, Vancouver, British Columbia, June 1969. 13 pages. ED 041 357 MF \$0.65 HC \$3.29.

To determine the processes of information utilization and decision-making at the local school district level, sixty-five school districts in three San Francisco Bay Area counties were surveyed. Four hundred participants—or sixty percent of the selected sample of superintendents, assistant superintendents, specialists, principals, and teachers—responded to the survey. Items on the survey questionnaire dealt with sources of information for educational planning and decision-making and the frequency of use of those sources, modes of communication used, extent of participation, educational planning areas, and information needs. The study identified the most frequently used information sources, the kinds of communication modes used, major problems in effective information utilization, and decisions regarded as most important.

35. Ruscoe, G. C. The Conditions for Success in Educational Planning. Fundamentals of Educational Planning-12. Paris, France: International Institute for Educational Planning, United Nations Educational, Scientific, and Cultural Organization, 1969. 46 pages. ED 050 487 Document not available from EDRS. (Available from UNIPUB, Inc., P. O. Box 443, New York, New York 10016. B. 2646, \$1.50.)

This report analyzes some of the conditions necessary for successful educational planning, focusing on political and administrative conditions

tending to make the educational planner's task more difficult. Research and experiences are drawn from Latin America. The author suggests that educational planners should seek methods of working with general planners and reformers of public administration, thereby enlisting outside support for educational planning and avoiding direct confrontation with educational powers. The report also warns against planning in a highly institutionalized context, emphasizing that planning on a more ad hoc basis could provide the flexibility necessary for taking advantage of minor planning successes as they occur and for avoiding direct confrontation with events likely to delay or even to destroy planning endeavors.

36. Sanders, Donald P. Planning for Educational Development. Columbus: Evaluation Center, Ohio State University, [1967]. 33 pages. ED 030 974 MF \$0.65 HC \$3.29.

Planning for development in education is a process that requires fundamental changes in people's world view, attitudes, knowledge, and skills. To satisfy future requirements for educated individuals, the educational system must be viewed as an instrument for the attainment of human goals, and planning must determine how many persons must learn what and how well. Because the existing system will constrain both the targets set and the direction of future changes in the system, the first step in planning is an assessment of the system. Assessment includes a "mapping" of the educational system on a disaggregated basis, with a breakdown into operationally useful divisions. Trends in the influence of private institutions must be anticipated, since such influences are less manageable from the public sphere. Complete data in such relevant categories as capacity, efficiency, effectiveness, and cost must be gathered and targets set and linked to specific educational institutions, working backward from the targets to the required inputs. Limited resources will require that priorities be established among the targets.

37. Schranm, Wilbur, and others. The New Media: Memo to Educational Planners. Paris, France: United Nations Educational, Scientific, and Cultural Organization, 1967. ED 018 982 Document not available from EDRS. (Available from UNESCO, Place de Fontenoy, 75 Paris-7E, France. No. 2315, \$2.95.)

This study reviews the educational uses, effectiveness, and costs of new media (radio, television, programmed learning, correspondence study, films, and audiovisual aids) and makes suggestions for the effective educational use of those media. New media have been used to upgrade instruction, teacher training, extension of education, literacy and fundamental education, adult education, and community development. Generally, the media have been effective, depending partly on program content, technical and organizational support, the use to which they have been put, and the

context in which reception takes place. Initial, operating, and expansion costs are variable. While the new media entail higher total costs, economies of scale make low unit costs possible. As a guide for planners, a checklist of seventeen key elements related to planning, organization and support, production, reception, and feedback is presented and discussed. The authors emphasize the distinction between production and reception and among technical components, content and teaching, supporting communications and evaluation, and training provisions. Planners are urged to take a systems analysis approach and to view the new media as efficient system components that may be used to meet a recognized educational need.

38. Scott, J. Glenn, and Ducharme, David J., editors. The Planning Process: A Systems Perspective for School Boards. Papers presented at OISE-OSTC Annual School Board Conference for Trustees and Administrators, Toronto, May-June 1971. Toronto: Ontario Institute for Studies in Education, 1972. 81 pages. ED 066 828 Document not available from EDRS. (Available from Ontario Institute for Studies in Education, 252 Bloor Street West, Toronto 5, Ontario, Canada. \$2.50.)

The six papers in this publication discuss how reasonable planning processes can be established and how budgeting procedures can be related to the wider planning process. In the first paper, K. George Pedersen establishes the current context of educational planning and decision-making, with emphasis on economic implications, and outlines several formalized approaches to the planning function. Donald M. Levine contributed two papers. The first describes systems analysis procedure and establishes its relationship to program budgeting. The second identifies objections to the application of a planning, programming, budgeting system to education and responds to those objections by outlining a plan for balanced implementation. T. Barr Greenfield provides a specific example of how a system analytical approach can be applied to educational planning and policy analysis. Jack R. McCarthy points out that, in a quest for accountability in education, those concerned should not overlook some limitations of planning techniques borrowed from industry. John C. Croft focuses on the human problems arising from the use of complex planning systems.

39. Tracz, G. S., and Burtnyk, W. New Dimensions for Educational Planning in the Seventies: With Specific Applications to Teacher Manpower. Educational Planning Occasional Paper No. 11/71. Toronto: Department of Educational Planning, Ontario Institute for Studies in Education, 1971. 36 pages. ED 059 524 MF \$0.65 HC \$3.29.

The purpose of this report is to describe the changing nature of educational planning and administration, thereby removing much of the semantic confusion surrounding those terms. At the same time, the authors emphasize

the need for educational institutions to identify explicitly their objectives and activities in planning and administration. The paper also attempts to describe more accurately the concept of educational planning by relating several educational issues to the strategic, tactical, and operational planning levels. A brief evaluation of past and emerging needs of research in teacher manpower is provided.

40. Tracz, G. S., and O'Mahony, J. T. Empirical Transition Matrices. Educational Planning Occasional Papers No. 6/71. Toronto: Department of Educational Planning, Ontario Institute for Studies in Education, 1971. 60 pages. ED 058 609 MF \$0.65 HC \$3.29.

This monograph is concerned with the uses of an individualized student information system in obtaining valuable insights into the educational progress of a variety of students. The first chapter introduces the concepts and terminology required for an understanding of transition matrices and provides a mathematical derivation of the basic flow equations and their matrix formulations. The second chapter contains a numerical example of the applications of empirical transition matrix methods to the flows within two Ontario colleges of applied arts and technology. The third chapter discusses the benefits, limitations, and possible extensions of the method.

41. Waterbury, Kenneth B. Long Range Planning for Public Schools, Presenting an Outline to Indicate Scope of Long Range Developmental Program, 1967-1977. Pennsylvania: Butler County Board of School Directors, 1968. 24 pages. ED 018 865 MF \$0.65 HC \$3.29.

School districts have a responsibility to develop a complete evaluation of every facet of their educational programs. They must project probable situations and change the educational program to meet those situations. A suggested outline covering the community, the educational system, school facilities, and school finances is designed to help a school district develop the long-range planning program now required from every district in Pennsylvania.

42. Watson, Cicely, editor. Educational Planning. Papers of the Invitational Conference (Toronto, Canada, March 20-22, 1967). Toronto: Ontario Department of Education, 1967. 71 pages. ED 016 303 MF \$0.65 HC \$3.29.

A conference attended by representative persons from departments of government, universities, and major school systems across Canada had two objectives: to gather planners and students of planning to discuss the state of the art, its technical problems, and its future; and to explain to Canadian educators what is meant by planning. Four of the papers deal with national or international experience and emphasize one particular

aspect of planning experience: organizational problems, the complications of a federal system, or data problems. Four papers are technical, dealing with economic aspects of planning and with social goals. Schemes for training planners are the subject of two papers.

43. Webster, Maureen M. Three Approaches to Educational Planning. A Review and Appraisal of the Demand-for-Places, Manpower-Requirements, and Rate-of-Return Approaches to Educational Planning. New York: Syracuse University, 1970. 88 pages. ED 044 769 MF \$0.65 HC \$3.29.

This report seeks to clarify the advantages and disadvantages of three approaches to educational planning and suggests that an eclectic approach is necessary to deal successfully with the problems and prospects of future planning. Each approach is examined to determine its methodology, its alleged shortcomings, and its application in selected planning situations. The approaches are then reviewed to synthesize a more adequate and comprehensive approach to planning. The author concludes that the three approaches should be viewed as complementary rather than as discrete alternatives, but that, even when taken together, they fail to constitute an adequate basis for planning. Much empirical research remains to be done to develop methodologies and theoretical bases for educational planning.

44. Wilson, Charles Z. "The Use of Computer Simulation Techniques in Educational Planning." Paper presented at American Educational Research Association annual meeting, Los Angeles, February 1969. 20 pages. ED 029 382 MF \$0.65 HC \$3.29.

Computer simulations provide powerful models for establishing goals, guidelines, and constraints in educational planning. Simulations are dynamic models that allow planners to examine logical descriptions of organizational behavior over time and that permit consideration of the large and complex systems required to produce realistic descriptions of behavior processes. Four types of simulations are particularly applicable to educational planning. Descriptive simulations provide models of human systems that explain system behavior and can be used to test theories by comparing real past behavior with simulated behavior. Intellectual simulations capture organizational qualities deemed important by the analyst and are suited to discovering the effects of proposed changes. Normative simulations are designed for analyzing such organizational problems as communications difficulties, social interaction patterns, hierarchical structures, and the implications of various strains and stresses. Man-machine simulations involve interaction between a human actor and a simulated environment. The success of these simulations as management games suggests their relevance to the training of educational administrators.

45. Woodhall, Maureen. Cost-Benefit Analysis in Educational Planning. Fundamentals of Educational Planning Series No. 13. Paris: International Institute for Educational Planning, United Nations Educational, Scientific, and Cultural Organization, 1970. 49 pages. ED 046 095 Document not available from EDRS. (Available from UNIPUB, Inc., P.O. Box 433, New York, New York 10016, B-2708, \$2.00.)

The purpose of cost-benefit analysis is to provide a guide for rational resource allocation by assessing the future benefits of an investment against the costs incurred in the present. For educational planners, this type of analysis is made difficult by the noneconomic costs and benefits in education and by the extensive time-lag between educational investments and realized benefits. In developing countries, where resources are limited and investment demands great, cost-benefit analysis serves as a useful framework for comparing returns from educational investments with those from other types of investments.

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