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This annotated bibliography contains 97 entries to aid those interested in the problems and techniques of comprehensive program planning. It is designed for educators who feel that systems analysis, cost-benefit studies, and mathematical models have some relevance in the planning processes of a large school system. Three major sections are included: (1) Educational/Program Planning, including studies dealing with the needs and problems of comprehensive and longrange planning by educational institutions; (2) Program Analysis Techniques, containing entries dealing with the use of specific techniques such as systems analysis and operations research in the analysis of educational and related problems; and (3) Planning-Programing-Budgeting Systems, including documents applying principally to the interface between planning and budgeting. (Author/HW)

EDUCATIONAL PROGRAM PLANNING

AND

RELATED TECHNIQUES

(Annotated Bibliography)

Unpublished Report

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INTRODUCTION

This bibliography has been compiled to aid those interested in the problems and techniques of comprehensive program planning. It has been designed for those educators who feel that systems analysis, cost-benefit studies, and mathematical models do have some relevance in the planning processes of a large school system. While this type of thinking may seem somewhat foreign to educational planning at this time, nevertheless, there are many who feel that methodological approaches such as these may yield efficient planning processes resulting in optimal educational benefits in terms of capital invested.

The following annotated bibliography has been divided into three sections: Educational/Program Planning, Program Analysis Techniques, and Planning-Programming-Budgeting Systems. Documents compiled in the Educational/Program Planning section deal with the needs and problems of comprehensive and long range planning by educational institutions. Items have been included which deal with planning in analogous institutions. The Program Analysis Techniques section contains entries which deal with the use of specific techniques, e.g., systems analysis, operations research, in the analysis of educational and related problems. The Planning-Programming-Budgeting Systems section involves documents which apply principally to the interface between planning and budgeting.

Richard H. Hinds
March, 1969

EDUCATIONAL/PROGRAM PLANNING

Adams, Don. Educational Planning (Syracuse: Syracuse University Press, 1964).

Six articles critically analyze the process of educational planning from the underlying assumptions to the practical problems of implementation.
Library.

Arrow, Kenneth J. Social Choice and Individual Values (New York: Wiley, 1951).

Bennis, Warren G. (ed.) The Planning of Change (New York: Holt, Rinehart, 1962).

Bereday, G. and Lauwery, J. Educational Planning (New York: Harcourt, Brace, 1967). 441p.

A comprehensive review of the state of the art of educational planning in many countries from the standpoint of theory, social-demand approach, manpower-requirements approach, cost-benefit approach, and models.

Blumenfeld, H. The Modern Metropolis: Planning (Cambridge: The M.I.T. Press, 1967). 377p.

Branch, M. Planning: Its Practice and Application (New York: Wiley, 1966).

Bullock, N. et al. "Theoretical Model for University Planning," Universities Quarterly 22: March, 1968, pp. 124-41.

Bushnell, David S. An Education System for the 70's (Washington: Aerospace Education Foundation Conference, 1967). 22p.

Treats certain inadequacies of the U.S. educational system involving a lack of well-defined goals, inadequate measuring procedures. Avail.: ERIC: ED017738.

Combs, Philip H. Educational Planning - An Inventory of Major Research Needs (Paris: Institute for Educational Planning, 1965).

A review of 25 possible areas of research which seem particularly relevant for educational planning.

Eash, M. "Is Systems Analysis for Supervisors?" Educational Leadership 26: February, 1969, pp. 482-489.

An introduction to the concept of systems analysis in educational problem solving.

Elsbree, Willard S. A Proposed Long Range Plan for Occupational and Vocational-Technical Education for Rhode Island (New York: Columbia University Institute of Field Studies, 1965). 44p.

Economic, employment, population and school information was analyzed as the basis for a proposed long range plan for occupational education. Avail.: ERIC: EDO19430.

Florida Educational Research and Development Council. Plan for Study of the Educational Needs of Florida (Gainesville, Fla.: College of Education, 1968). Variable paging.

A framework and plan for studying educational needs in the state of Florida.

Florida State Department of Education. Planning for Workshops and Rehabilitation Facilities in Florida (Tallahassee: SDE, 1967). 262p.

Glasserman, J. Common Patterns in Educational Planning Models (17-137) (Yorktown Heights, N.Y.: IBM, 1968). 9p.

A synthesis of patterns of educational planning models.

Harbison, Frederick and Myers, Charles. Education, Manpower and Economic Growth, Strategies of Human Resource Development (New York: McGraw-Hill, 1964).

Hatry, H. and Cotton, J. Program Planning for State, County, and City (Washington: George Washington University, 1967). 72p.

Helmer, Olaf. The Use of the Delphi Technique in Problems of Educational Innovations (Santa Monica: RAND). 22p.

An example of the use of the Delphi technique in planning the implementation of large scale educational innovations.

Hirsch, Werner Z. "Planning Education Today for Tomorrow," Urban Affairs Quarterly 2, Sep., 1966.

Educational planners are currently unable to make decisions effectively about urban education. Various ways to alleviate this dilemma are offered including simulation techniques, cost analysis, etc.

Jenkins, S. "More Planners," Times Educational Supplement 2715: June 2, 1967, p. 1881.

A cursory examination of a planning staff in an English school system.

Koulourianos, Dimitrith. Educational Planning for Economic Growth (Berkeley: University of California, 1967).

The particular characteristics of education as an economic good are examined. Different approaches to educational planning are analyzed including mathematical models.

Lave, R.E. and Kyle, D.W. "Application of Systems Analysis to Educational Planning," Comparative Education Review 12: February, 1968, pp. 39-56.

A discussion of the problems facing educational planners in an attempt to show that although the problems of educational planning are complex, they are amenable to analysis by existing quantitative methodologies.

Leone, Lucile P. Statewide Planning for Nursing Education (Atlanta, Southern Regional Education Board, 1967). 52p.

An examination of the problems and needs of comprehensive planning based on employment projections in nursing education. Avail.: ERIC: EDO1546.

Lyons, Raymond F. Problems and Strategies of Educational Planning-Lessons from Latin America (New York: UNESCO Publications, 1965).

Summaries of a seminar which considered the role of educational planning as a means of advancing education and linking it more effectively to overall economic and social development.

Meeth, L. R. "Functional Long Range Planning: Purpose and Process," Liberal Education 53: Oct., 1967, pp. 375-84.

An examination of the concept of long range planning particularly as it bears on the university.

Morphet, E. and Ryan, C. (eds.) Planning and Effecting Needed Changes in Education (New York: Citation, 1967). 317p.

A review of the benefits, problems, and needs of long range planning.

Norsch, William C. A Technique for the Projection of Occupational-Educational Requirements for State Educational Planning Areas (Washington: National Center for Educational Statistics, 1966). 18p.

Discusses a system designed to provide long range (10 years) projections of educational needs based on anticipated levels of industrial employment. Avail.: ERIC: EDO16818.

Novick, David. Resource Analysis and Long-Range Planning (RM: 3658) (Santa Monica, Calif.: Rand, 1963).

O'Brien, Richard J. School Submodel for Large Urban Schools (TN-38) (Washington: National Center for Educational Statistics, 1967). 18p.

The objective of this paper is the specification of educational inputs, their interrelationships, and the presentation of the data in the form necessary for a later evaluation of costs and effectiveness.

Cost Model for Large Urban Schools (TN-30) (Washington: National Center for Educational Statistics, 1967). 26p.

This document includes a cost model of a large urban school system.

Outline of an Urban Educational Model (Washington: National Center for Educational Statistics, 1968). 17p.

A nontechnical discussion of a symbolic model to be used in planning the location and enrollment size of urban schools. Avail.: ERIC: EDO18860.

Piele, Phillip. "Planning Systems in Education," ERIC/CEA Research Review (Eugene, Ore.: Center for the Advanced Study of Educational Administration, 1969).

A review of selected documents received at the clearinghouse dealing with the application of several kinds of planning

Porwit. Central Planning (Long Island City: Pergamon, 1967). 202p.

Rowen, H. S. "Long-Range Planning", Leadership for Education, Proceedings of the National Conference of State Legislators, Dec. 4-6, 1966, pp. 69-72.

Ruliffson, Willard A. An Analysis of the Rationale and Procedures for Long Range Planning (New York: Teachers College, 1968). 99p.

A survey with recommendations relevant to long range planning practices in school systems. Suggestions are offered from the insights of industry planners. Avail.: ERIC: ED 020571.

Schaller, H. (ed.) Public Expenditure Decisions in the Urban Community (Washington: Resources for the Future, 1962).

Silverthorn, H. "Challenge for an Educational Planner," American School Board Journal 150: June, 1965, pp. 9-10.

A review of the problems of prognostication for the school planning coordinator.

Smithies, A. Government Decision-Making and the Theory of Choice (Santa Monica: RAND, 1964).

Stone, R. "A Model of the Educational System," Minerva 3: Winter, 1965, pp. 172-186.

Tollefson, J. Planning the Allocation of Efforts to Projects under Uncertainty (Lawrence: University of Kansas, 1968). 23p.

Watson, Cicely (ed.) Educational Planning: Papers of the Invitational Conference (Toronto: Ontario Board of Education, 1967). 71p.

The major papers delivered at the conference involving the state of the art of educational planning, training needs, systems analysis. Avail.: ERIC: ED016303.

Williams, Harry. Planning for Effective Resource Allocation in Universities (Washington: American Council on Education, 1966). 310.p.

Abt, Clark. Design for an Elementary and Secondary Education Cost Effectiveness Model (Cambridge, Mass.: Abt Associates, 1967). 231p.

A model intended to predict the relative cost-effectiveness of alternative educational improvement programs within the same school-community setting. Avail.: ERIC: ED014152.

Bartholomew, D.J. Stochastic Model for Social Processes (New York: Wiley, 1967). 275p.

Bell, C. Cost-Effectiveness as a Management Tool (Santa Monica: RAND, 1964).

Bern, H.A. "Wanted: Educational Engineers," Phi Delta Kappan 48: January, 1967, pp. 230-236.

An examination of the personnel requirements for a technological design of curriculum.

Boyer, Roscoe. The Use of Mathematical Programming to Solve Certain Problems in Public School Transportation (Mississippi University: Bureau of Educational Research, 1961). 77p.

A program to devise optimal routes for school buses was developed. Avail.: ERIC: ED002935.

Burkhead, Jesse. Input and Output in Large City High Schools (Syracuse: Syracuse University Press, 1967). 110p.

An examination of the allocation of resources within certain large school systems (Chicago and Atlanta) and interrelationship of them to certain student outputs.

Clark, Harold. Cost and Quality in Public Education (Syracuse: Syracuse University Press, 1963). 54p.

A review of the cost-quality question in public education.

Clark, Stephen. Urban Education Systems Analysis (TN-24) (Washington: National Center for Educational Statistics, 1967). 16p.

Analysis of urban educational systems decision making in many areas by use of a developed analytical model. Avail.: ERIC: ED013528.

PROGRAM ANALYSIS TECHNIQUES

Cook, Desmond. Program Evaluation and Review Technique: Applications in Education (Washington: Government Printing Office, 1966). 100p.

An introduction to the use of PERT techniques for educational research projects.

Dorfman, Robert (ed.) Measuring Benefits of Government Investments (Washington: The Brookings Institute, 1965). 429p.

Anthology of papers presented at a conference to explore the problems of appraising the benefits from proposed public investment projects. Includes an education-oriented section concerning the benefits of preventing high school dropouts. Avail.: Metro Program Analysis Division Library.

Dueker, Richard. An Analysis of Cost and Performance Factors in the Operation and Administration of Vocational Programs in Secondary Schools (American Institute for Research in Behavioral Sciences, 1967). 49p.

A study to identify the kinds of costs and related data that can be obtained to aid planning and evaluating vocational education. Avail.: ERIC: EDO19516.

Edding, F. Methods of Analyzing Educational Outlay (New York: UNESCO Publications, 1966). 70p.

A discussion of the use of certain economic analyses for long range planning.

Exton, Elaine. "USOE Uses Computer-Based Models to Evaluate Education," American School Board Journal 150: June, 1965, 4p.

A presentation of the efforts of the National Center for Educational Statistics of the USOE. Research Library.

Fisher, G. H. What is Resource Analysis? (Santa Monica: RAND, 1963).

Goldman, Thomas (ed.) Cost Effectiveness Analysis: New Approaches in Decision-Making (New York: Frederick A. Praeger, Inc., 1967).

An overview of those tools which enable an estimation of the probable costs and benefits of alternative management strategies.

Grosse, R. N. An Introduction to Cost-Effectiveness Analysis (McClean, Va.: Research Analysis Corp., 1965).

Hare. Systems Analysis: A Diagnostic Approach (New York: Harcourt, Brace, 1967). 544p.

A technical review of the use of system methodology for various problems.

Hartley, H. Educational Planning-Programming Budgeting: A Systems Approach (Englewood Cliffs: Prentice-Hall, 1968). 290p.

A comprehensive review of many management techniques applied to educational problems.

Hatry. Criteria for Evaluation in Planning State and Local Programs (Washington: George Washington University, 1967). 52p.

Hillier, F. S. and Lieberman, G. J. Introduction to Operations Research (San Francisco: Doubleday, 1967). 639p.

A very technical introduction to operations research including mathematical programming and probabilistic models.

Judy, Richard. A New Tool for Educational Administrators: Educational Efficiency through Simulation Analysis (Toronto: University of Toronto Press, 1965).

The development of a simulation model to aid institutional planning for the undergraduate level of higher education.

Systems Analysis and University Planning (Washington: AERA Convention, 1967). 55p.

Review of a model to analyze the planning of the health sciences faculty at the University of Toronto. Avail.: ERIC: ED017027.

Kahn, H. and Mann, I. Techniques of Systems Analysis (Santa Monica: RAND, 1957). 161p.

An introductory text for military officers who must examine and use the results of systems analyses.

Kraemer, Kenneth. The Systems Approach in Urban Administration - Planning, Management and Operations (Monticello, Ill.: Council of Planning Librarians Exchange Bibliography, 1968). 60p.

A comprehensive bibliography of planning and systems documents.

Kershaw, J. A. and McKean, R.N. Systems Analysis and Education (Santa Monica: RAND, 1959). 64p.

An exploratory study conducted to determine the extent to which systematic quantitative analysis can contribute to educational decisions.

Levin, Henry. Cost-Effectiveness Analysis and Educational Policy-Profusion, Confusion, Promise (Stanford: School of Education, 1968). 13p.

A review of the promises of cost-effectiveness analysis with a case study.

McKean, R. N. Efficiency in Government through Systems Analysis (New York: Wiley, 1958).

McMillan, C. and Gonzalez, R. Systems Analysis: A Computer Approach to Decision Models (Homewood, Ill.: Richard D. Irwin, Inc., 1968). 520p.

An introduction to systems analysis for those with limited mathematical backgrounds.

Metropolitan Dade County, Fla. Program Analysis Seminar Notebook (Miami: by the author, 1968). Variable paging.

Miller, Donald. A Systems Approach for Solving Educational Problems (Burlingame, Calif.: Operation PEP, 1967). 40p.

An examination of various aspects of the systems approach relevant to education: the systems concept, assumptions, limitations. Avail.: ERIC: EDO20585.

Moder, J. and Phillips, C. Project Management with CPM and PERT (New York: Reinhold, 1967). 283p.

An introduction to the use of the critical path method and project networks for project management.

Mood, A. and Powers, R. Cost-Benefit Analysis of Education (Washington: National Center for Educational Statistics, 1967). 15p.

A review of the difficulties and means for conducting cost-benefit analyses of education.

Morse, P.M. and Bacon, L.W. Operations Research for Public Systems (Cambridge, Mass.: M.I.T. Press, 1967).

Novick, David. Resource Analysis and Long-Range Planning (Santa Monica: RAND, 1963). 27p.

Intended primarily for those who must provide inputs to, as well as use the results of, cost analyses.

Quade, E.S. (ed.). Analysis for Military Decisions (Chicago: Rand, McNally, 1964). 382p.

An anthology of the use of systems methodology for different military decisions; includes quantitative and semi-quantitative approaches.

Cost-Effectiveness: An Introduction and Overview (Santa Monica: RAND, 1965). 16p.

Cost-effectiveness analysis is defined and its current use, advantages, and limitations in defense planning described.

Schultze, Charles. Program Analysis Techniques: A Selected Bibliography (Bureau of the Budget, 1966). 40p.

A comprehensive review of articles dealing with program analysis techniques; a section pertaining to health, education, and welfare is included.

Seiler, John. Systems Analysis in Organizational Behavior (Homewood, Ill.: Richard D. Irwin, Inc., 1967). 219p.

Case studies involving the use of nonquantitative systems analysis for organizational problems.

Speigelman, Robert. Cost-Benefit Model to Evaluate Educational Programs (Menlo Park, Calif: Stanford Research Institute, 1967). 224p.

Progress report concerning the development of a mathematical model that will provide a method for the analysis of benefits derived from ESEA, Title I. Avail.: ERIC: ED012828.

Stoller, David. Abstracts of Technical Notes (Washington: National Center for Educational Statistics, 1968). 29p.

A comprehensive annotated bibliography of technical notes and studies published by the Division of Data Analysis and Dissemination of the National Center for Educational Statistics (USOE).

Stoller, David. Report on the OECD Conference on Systems Analysis and Techniques in Educational Planning (Washington: National Center for Educational Statistics, 1967). 8p.

A summary of the proceedings of an international group of educational planners, systems analysts, and econometricians. Avail.: ERIC: ED012518.

"Systems Analysis and Public Education: Symposium," Journal of Secondary Education 42: October, 1967, pp. 243-266.

U.S. Dept. of Health, Education, and Welfare. Human Investment Programs, 12/67 (Washington, Program Analysis, 1967).

Vincent, Howard. Selected Bibliography-Application of Economic Analysis and Operations Research to Problems in Educational Planning (Washington: National Center for Educational Statistics, 1966). 6p.

Avail.: ERIC: ED014129.

Wiseman, Jack. "Cost-Benefit Analysis in Education," Southern Economic Journal 32: July, 1965, supp., pp. 1-14.

PLANNING-PROGRAMMING-BUDGETING SYSTEMS

Curtis, William. Program Planning-Budgeting-Evaluation System Design: An Annotated Bibliography (Chicago: The Research Corporation of the Association of School Business Officials, 1968). 15p.

A selected bibliography of documents relating to the design of a PPBES system.

Detroit Public Library. Programming, Planning, Budgeting Systems: A Selected List of Recent References (Detroit: Municipal Reference Library), 6p.

A bibliography of recent documents involving PPBS.

Eidell, T. and Piele, P. A Bibliography of Selected Documents on Planning, Programming, Budgeting Systems (Eugene, Ore: Oregon University, 1968). 4p.

Avail.: ERIC: EDO18876.

Fisher, G. H. The World of Program Budgeting (Santa Monica: RAND, 1966). 30p.

An introductory examination of the implications of program budgeting.

George Washington University. Planning for Educational Development in a Planning, Programming, Budgeting System (Washington: National Education Association, 1968). 46p.

A framework for the implementation of a PPB system in the public schools.

Lee, Sang Moon. A Basic Bibliography Relevant to Planning, Programming, Budgeting System (Athens, Ga.: The University of Georgia.) 14p.

Metropolitan Dade County, Fla. PPBS Notebook from the County Manager (Miami: by the author). Variable paging.

A continuing series of newsletters detailing the progress of PPBS in Dade County metropolitan government and a bibliography of their collections in this field.

Novick, David (ed.) Program Budgeting: Program Analysis and the Federal Budget (Cambridge, Mass.: Harvard University Press, 1965). 382p.

A comprehensive review of the implications of program budgeting in the Federal government. An examination of education in the program budget is included.

Quade, E. S. Systems Analysis Techniques for Planning-Programming-Budgeting (Santa Monica: Rand, 1966). 31p.

A nontechnical introduction to the use of systems analysis in program budgeting.

Smithies, A. A Conceptual Framework for the Program Budget (Santa Monica: Rand, 1964). 48p.

A conceptual framework for program budgeting including the role of budgeting in the government decision-making process.

Tax Foundation. Planning-Programming-Budgeting Systems Research Bibliography (New York: Tax Foundation, Inc., 1967). 2p.

An annotated bibliography involving both PPBS and cost-benefit analysis in government.