Presented is the user's manual for the Educational Manpower Information Sources Project (EMAP), an information file containing approximately 325 document abstracts related to the field of educational planning. (The EMAP file is described in document SP 006 747.) (JB)
EMAP USERS MANUAL

Prepared by: Arnold Kotz, Principal Investigator
Rory Redondo, Manpower Specialist

EDUCATIONAL MANPOWER INFORMATION SOURCES PROJECT
Prepared Under Contract by the
National Planning Association
for the

BUREAU OF EDUCATIONAL PERSONNEL DEVELOPMENT
U.S. OFFICE OF EDUCATION, DEPARTMENT OF
HEALTH, EDUCATION AND WELFARE

Washington, D.C., December, 1971
A system that can be maintained or updated with the minimum cost and effort and allows the users to enjoy the advantages of modern information systems.

The manual system contains much that would be applicable and transferrable to a modern responsive information system. However, for the reasons stated above, the manual system should be considered for interim use only, to be replaced as soon as possible by one of the systems set forth in the "three alternatives," a paper separately prepared and delivered to USOE.

This study was conducted under the overall supervision of Dr. Leonard A. Loeb, Director of the Center for Priority Analyses. Marc Kailand, Deputy Director of the Center, provided many valuable insights during the preparation of the final report.

The authors wish to thank Mrs. Iris Garfield and Mr. Bill Smith and others in USOE whose cooperation and thoughtful comments facilitated the conduct of this study.

Arnold Ketz
Principal Investigator
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Foreword

E!-IAP Users Vanua

The E!-IAP Users Vanua describes a preliminary information classification system focusing on quantitative educational personnel descriptions, developed as a product of the first phase of the Educational manpower Project being conducted by the National Planning Association (NPA) for the U.S. Office of Education. A major objective of this system is to provide staff members of WOE with a catalog of data and studies available for use in policy planning, decision making, program monitoring and other activities necessary to the provision of services for the improvement of educational personnel throughout the United States.

Many new demands and programs are being placed upon the educational establishment by Congress, local legislators and the public. Programs such as those for raising the level of performance of the disadvantaged, for racial balance, for the handicapped, for the preschool child, for drug control, and for the environment, all require responsive actions by school leadership, teachers and support personnel. Additional burdens are thrown upon school personnel in an environment in which budgets are limited and accelerated change in multiple fields of human endeavor affect the children's value systems, their discipline, their motivation, and their work performance. In this environment, WOE required sharp focus upon information sources concerning the education professions that would display relevant data and researches completed on educational personnel. The latter represent a major and highly important component of the input resources into the educational process which is most important in determining the manner in which all educational resources and institutions respond to the needs of target populations.

The structural make-up of the educational system in the United States complicates the problem of information collection and analysis. As of 1971, there were over 17,000 school districts throughout the country in fifty U.S. states and their counties and a total public and nonpublic kindergarten, elementary and secondary enrollment of 51,000,000.1/ There has been a tremendous outpouring of information on all phases of education. In the United States alone, there are 50,000 documents and 14,000 journal articles covering researches and reports of all types released annually.2/


Charting logical pathways through this mountain of educational material is therefore a prime objective of EI4AP if potential users are to be aided in keeping current with significant studies containing pertinent quantitative information on educational personnel. Such materials should help them answer such questions as: What are the major issues in the educational professions today? Who are the educational personnel? What motivates individuals to serve as educational personnel? Who trains them? Where? How? How many? Are there any guidelines used to ensure that the right individuals/numbers are being trained? For what educational areas/skills/responsibilities? Who does their hiring? When they are hired, do they undergo any training? Who assigns them? How? How could they best be assigned? When assigned, do they perform their assigned functions efficiently? Who ensures this objective? What types of factors affect their performance? Who rates them on their performance? How? If they are not performing, what types of training should be given to them? What factors cause teachers to leave education? If they leave education, where do they go? What factors make them return?

These are but a few of the myriad of questions that face the managers of personnel development programs if they are to provide services which are geared to the needs of educational manpower all over the country. The selection of initial areas of search for the identification of data and data studies was geared to expressed management needs of personnel of the Bureau of Educational Personnel Development in the U.S. Office of Education in terms of important issues and high priority areas of concern. In addition, a review of Congressional hearings and of current literature suggested high priority concerns. Major Federal, state and local programs, planned educational personnel development programs and their data needs suggested other issues. From this analysis, thirty major categories were selected as most significant for the education personnel information sources classification system.

Areas such as early childhood education, teacher negotiations and unions, training, education of the disadvantaged, use of paraprofessionals in education, civil rights and school staff racial balance, personnel career patterns, innovation and experimentation, educational leadership, public and teacher attitudes towards education are some examples of concerns expressed by the OE program managers as vital to design and planning of responsive programs. A list of the 30 categories appears on p. 7. The search for relevant materials was further guided by the distinction between qualitative and quantitative characteristics of the reports with priority of choice given to researches and studies that present analyses backed by substantial research findings. Evaluation reports for example, that contain statements, "the early childhood education program raised the participant's reading level by an overall improvement of 25% in their Iowa Reading Test Scores and was judged as successful by 95% of the principals and teachers in whose schools the program was introduced," would be preferably chosen over reports that merely state, "the early childhood education program was judged as successful by the participants," or such similar qualitative authors' opinions. This focus on relevant studies containing quantitative information and research data was expressed as a prime need of USOE. However,
some studies with no relevant research statistics were included provided these show trends, discuss timely issues, or serve as valuable secondary sources of educational research data. At this point, it should be noted that EYAP is the first cut at an endeavor showing how salient information studies on educational manpower could be identified and pinpointed as potential sources of program trend information.

The description that follows sets forth a manual system resulting from a first cut feasibility study to determine the value of establishing an educational personnel information sources system on a manual basis. Another task required suggesting alternative ways for maintaining and updating the system, including the feasibility of computerizing the information system. The tremendous volume of documents and journal articles both existing on educational manpower and forthcoming annually, made it apparent that a manual system would not be adequate to meet the needs of the U.S. Office of Education. NPA's findings, elsewhere reported, and called to USOE's attention, leads to the firm conclusion that the existing magnitude and annual volume of data requires the development of a computerized system of data collection facilitating the efficient retrieval and storage of educational manpower statistics needed by the U.S. Office of Education for planning and programming purposes.

An automatic data processing system for storage and retrieval will best accomplish the objectives of EYAP which are to achieve:

A system that is specially geared to guide the users in searching significant data sources which will be helpful in decision making and the planning, programming and administering of educational personnel development programs.

A system that will identify data availabilities, current and prospective, and will facilitate analysis and display of the data and which will permit a reliable gauge of the directions, quality and significance of past, on-going and future studies of educational manpower in relation to needs.

Development of techniques that allow its users to search existing systems and cull material for the charting of new avenues for research and coordination of manpower research efforts throughout the country.

A system that draws upon the best features of established systems (such as those of NCES, Belmont, ERIC) and tailors those to the needs of the users without being constrained by standard, established or conventional library or information systems or practices, and by building upon them rather than duplicating them.
A system that can be maintained or updated with the minimum cost and effort and allows the users to enjoy the advantages of modern information systems.

The manual system contains much that would be applicable and transferrable to a modern responsive information system. However, for the reasons stated above, the manual system should be considered for interim use only, to be replaced as soon as possible by one of the systems set forth in the "three alternatives," a paper separately prepared and delivered to WOE.

Arnold Kotz
Principal Investigator
II. The Contents of EMAP
Criteria for Selection of EMP Data

EMP presents abstracts of educational studies and materials containing quantitative information relating to the period 1963 to the present. It should again be noted that only this type of database is used in the database and not the original documents or data banks from which the editorates through the system. All abstracts within each type of publication are classified under the following personnel groups:

Administrative

School Administrators
  Superintendents
  Principals
  Other
    Department Heads
    Educational Planners

Instructional Staff

  Teachers (all types)
  Paraprofessionals
  Other

Pupil Personnel Services

  Guidance Personnel or Counselors
  Health Personnel or Workers
  Social Work Personnel
  School Psychological Personnel
  Speech and Hearing Specialists
  Speech Pathology Personnel

Other Personnel

  Supervisors
  Curriculum Designers
  New Professionals
  Teacher Trainers
  Educational Specialists
  Consultants
  Media Specialists
  Paraprofessionals
  Educational Personnel
  Non-Teaching Professionals
  Professional Personnel
  Education Students

The inclusion of the groups under each main type of staff is open to discussions; for instance, classifying paraprofessionals under instructional staff when they also may perform non-instructional support duties in the classroom. Paraprofessionals are therefore also shown under other personnel. Some general terms lacking precision, such as, "Educational Personnel" and "Professional Persons" were used to reflect descriptors used in the current literature.
The initial design and development of EMAP are concerned with educational personnel in nursery, kindergarten, elementary and secondary public and private schools in the United States. Aside from criteria which guided the initial choice of categories: (1) focus on educational personnel, (2) priority, and (3) practice or current information, an additional criterion was used, namely, (4) innovative approaches and for the inclusion of materials through EMAP that show solutions to problems or chart future priority areas of concern in educational research (see Appendix I). Thus focus on educational personnel is maintained with a clear understanding that the ultimate purpose and end products must be the performance of the pupils who are the target populations of the educational process.

There are an initial 30 priority areas of concern in EMAP, called CATEGORY AREAS. The Category Area titles are designed to show the educational personnel group itself (ex., CA 020, Pupil Personnel Services); a standard practice or current issue in personnel development (ex., CA 005, Performance); and an educational program area showing educational personnel development activities (ex., CA 016, Early Childhood Education). The categories were selected to be responsive to management needs of the U.S. Office of Education and are not necessarily mutually exclusive.

A list of the Category Areas follows with their assigned three-digit accession numbers, 001 through n. Thus the second abstract in the third category area, supply and demand, would have CA 003 002 as its accession number. Scope notes (SN) are provided to delineate each Category Area.
ESCAP CATEGORY AREAS

CA 001 Recruitment
CA 002 Selection
CA 003 Supply and Demand
CA 004 Accreditation/Certification
CA 005 Utilization/Staffing
CA 006 Performance
CA 007 Training, Preservice
CA 008 Training, Inservice
CA 009 Working Conditions, Earnings, Incentives, Fringe Benefits
CA 010 Career Patterns
CA 011 Support Professional Roles
CA 012 Civil Rights
CA 013 Education of the Disadvantaged
CA 014 Vocational Education
CA 015 Bilingual Education
CA 016 Early Childhood Education
CA 017 Educational Leadership
CA 018 Paraprofessionals
CA 019 Instructional Areas
CA 020 Pupil Personnel Services
CA 021 Special Education
CA 022 Public and Teacher Attitudes Towards Education
CA 023 Teacher Associations/Unions
CA 024 Legislation
CA 025 Teacher Characteristics
CA 026 Educational Technology
CA 027 Future Societal Needs/Trends/Plans
CA 028 Major Discipline Issues
CA 029 Community Relations
EMAP Category Areas and Their Scope Notes

CA 001 Recruitment

SN Trends and practices in the efforts of school systems to make available job opening information to individuals through educational institutions, training sources, and other pertinent channels, to encourage the best qualified of these individuals to enter the school systems.

CA 002 Selection

SN Standards and practices involved in educational personnel hiring; types of criteria set by school personnel administrators in the selection of teachers and other educational personnel.

CA 003 Supply and Demand

SN Indicators of personnel availability for employment (number currently employed and number available for future employment) and indicators of the number needed to fill job openings arising from normal employment growth and replacement needs (retirement, death, etc.).

CA 004 Accreditation/Certification

Accreditation
SN The type of recognition (e.g., professional, regional, or state) held by an educational institution (e.g., a public school system, a secondary school, etc.) granting credits earned by staff members for certification purposes.

Certification
SN The general process by which the state (or an agency or organization authorized by the state) provides a credential (certificate or license) to an individual authorizing him to perform services for the educational system.

CA 005 Utilization/Differentiated Staffing

Utilization
SN Strategies in the assignment of teacher resources and other personnel with the objective of achieving the most efficient performance for the best pupil learning outcomes.

Differentiated Staffing
SN A division and extension of the role of the teacher through the creation of a hierarchy with job responsibilities that are commensurate with the range of pay. Its principal objective is to place superior teaching talent at the disposal of more students and to offer superior teachers full professional careers as classroom teachers.
CA 006 Performance

SN Measurement of educational personnel accountability in the achievement of formal educational objectives and outputs such as teacher impact on pupil learning or pupil personnel staff contribution to the improvement of instruction, or contribution of vocational education to pupil placement in jobs or related jobs for which trained.

CA 007 Training, Preservice

SN Includes systematized activities promoted, directed or approved by a school system or school that contribute to the professional or occupational growth and competence of educational personnel prior to their time of service in the school system or school. Among these activities are: workshops, institutes, conferences, lectures, demonstrations, staff meetings, school visits, courses for college credit, sabbatical and travel leaves.

CA 008 Training, Inservice

SN Includes systematized activities promoted, directed or approved by a school system or school that contribute to the professional or occupational growth and competence of educational personnel prior to their time of service in the school system or school. Among these activities are: workshops, institutes, conferences, lectures, demonstrations, staff meetings, school visits, courses for college credit, sabbatical and travel leaves.

CA 009 Working Conditions, Earnings, Incentives, Fringe Benefits

SN Includes regular personnel salaries, salary schedules and other remunerative allowances; may include types of income from sources other than educational employment of the personnel groups concerned, also trends and practices of school systems for recognizing and compensating school personnel meritorious performance; includes provisions for the encouragement of personnel seeking and engaging in professional growth.

CA 010 Career Patterns

SN Descriptions of personnel employment profiles and standard procedures involved in the administration of personnel such as tenure, turnover, mobility, termination and dismissal.

CA 011 Support Professional Roles

SN Includes staff members providing services supporting instruction such as supervisors, educational specialists, and media specialists.
Civil Rights

Activities involved in the achievement of racial balance and integration of the school system; the safeguarding of constitutional rights of educational personnel, particularly focusing upon issues such as the professional status of minority teachers and racial profiles of school personnel.

Education of the Disadvantaged

Staff members in programs providing services to individuals identified as suffering from economic, intellectual, cultural and social handicaps, i.e., as members of families receiving incomes below poverty levels, minority groups, low intelligence, etc.

Vocational Education

Occupational skill training, i.e., the educational content and process through which one learns to become a competent worker; includes educational personnel in vocational education program offerings such as agriculture, office occupations, trade and industrial occupations, technical occupations, gainful home economics and health and distributive occupations.

Bilingual Education

Personnel in programs geared to the provision of instructional services that bridge cultural and language gaps between minority groups and the larger society, i.e., the personnel skilled in bilingual education methods such as using minority groups' languages as well as the regular medium of instruction within the school program.

Early Childhood Education

Staff members in charge of educational experiences provided by the school at the preprimary and primary levels, i.e., training, types of personnel needed for innovative services and programs.

Educational Leadership

Personnel groups charged with responsibilities of administrative and evaluative services within the school system and the creation of healthy climates of change within the system. Includes school superintendents and principals.

Paraprofessionals

Staff members performing assigned activities of a teaching or nonteaching nature which are not classified as fully professional duties but which assist a staff member to perform professional educational teaching or other professional educational assignments.
CA 019  Instructional Areas

SN  Includes new instructional fields of priority interest in such areas as environmental health instruction and new career programs; also includes the fields of instruction in regular academic programs, such as mathematics and the social and life sciences.

CA 020  Pupil Personnel Services

SN  Educational personnel charged with the provision of services such as guidance services, health services, school psychological services, audiology services, speech pathology, and school social work services which are concerned with the total welfare of pupils. Some of these personnel groups are: guidance counselors, speech and hearing specialists, school psychologists, social workers and health workers.

CA 021  Special Education

SN  The provision of services which are different from or in addition to those provided in the usual school program and are provided for exceptional pupils by specially qualified personnel. Exceptional children are identified as such on the basis of (a) physical handicap, (b) emotional and/or social handicap, and (c) measurable exceptionality in some mental ability, i.e., mentally gifted and mentally retarded. Some exceptional children may have more than one type of exceptionality. Special education may be provided in special classes on a full-time or part-time basis, outside the school plant or in other appropriate settings.

CA 022  Public and Teacher Attitudes Towards Education

SN  Opinion levels of the public and teaching personnel regarding the entire range of education, its policies, standards, practices, programs and personnel.

CA 023  Teacher Associations/Unions

SN  Formal groups organized expressly by teaching personnel for the improvement of education and their employment conditions. Includes analyses of working conditions, professional status of teachers, other relevant issues in teacher union-school board negotiations.

CA 024  Legislation

SN  Laws and regulations passed by Federal, state and local legislature and boards affecting educational personnel development and employment.
CA 025 Teacher Characteristics

SN Personnel descriptions useful for administration and evaluation purposes such as educational preparation, experience, certification status, type of assignment, teaching load, marital status, age and sex.

CA 026 Educational Technology

SN Impact of new technological developments on education; personnel specializing in providing services using these technologies in the classroom such as television teachers and those skilled in computer-assisted instruction.

CA 027 Future Societal Needs/Trends

SN Includes planning and research with respect to future developments in education affecting educational personnel such as future plans and priorities of education in the 1980's or the year 2000, the new programs/approaches of education and the types of personnel, facilities and equipment needed to implement these plans.

CA 028 Major Discipline Issues

SN Assessment of the types of disciplinary practices and classroom control; the role of administrators in maintaining discipline; problems and methods in the maintenance of effective discipline.

CA 029 Community Relations

SN Interpersonal relations between educational personnel groups and the community; identification of more effective channels of communication and cooperation for the improvement of the educational system; community control.

CA 030 Innovation/Experimentation

SN Educational innovations and experiments are collected in the abstracts gathered together under this category, with particular note being made of the role of educational personnel related thereto. Also concerned with the dissemination of results and the introduction of change into educational systems and processes.
III. Instructions to EMAP
EMAP in its initial form has been designed as a manual system. It provides three indexes to guide the user into the system, i.e., subject, author/institution, and title, the last two in card file form. Its abstracts also in card form, are numerically filed by Category Area and are available for browsing in folders. This latter feature permits ready access to summaries of operating and research reports grouped by areas of major program interest.

**EMAP's Browsing Feature**

This feature is presented as a short-cut or time saving device for the user as a first step into EMAP.

Instructions:

1. Proceed to the abstract file and check the Category Area File Tabs. Determine the area of your interest and pull out all the abstracts filed under that area. See instructions for reading the abstracts and codes, p. 14-20.

2. For searching other material that may contain relevant information but that has been assigned to other areas as its major focus, check the coordinated Subject Index. For using this index, see instructions, p. 21.

**The EMAP Accession Number**

All EMAP abstracts carry two sets of accession numbers. As each material or educational report meets the set criteria for inclusion in EMAP, it is assigned a sequential number indicating its order of inclusion in EMAP, and a six-digit category area number: The first three digits for indicating category area and the last three digits for the sequential order of their inclusion into the category area. See Figure 1.

Figure 1. The EMAP Accession Number

<table>
<thead>
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<td>100th abstract</td>
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<td>in EMAP</td>
<td>Special Education</td>
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<td>&quot;Special Education&quot;</td>
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The EMAP Abstract

All materials included in EMAP appear on individual abstracts. Each abstract or resume offers the following information:

An accession number showing the classification of the material by its sequential order of inclusion into EMAP and by its type of focus upon educational personnel by major category area.

A statistical format which presents the types of quantitative information available on the educational personnel group under focus.

A brief summary of the report's objectives, scope, methodology, and significant highlights.

An evaluation of the material's scope, methodology, significance, and recency.

A section identifying the material and indicating where a copy of the document may be obtained.

(See following attached form and instructions for reading the abstract codes, page 18.)
### Educational Personnel Statistics

<table>
<thead>
<tr>
<th>Group</th>
<th>Subject</th>
<th>Ed. Level</th>
<th>Type of Data</th>
<th>Area</th>
<th>Time Period</th>
<th>Page</th>
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<tr>
<td>T</td>
<td>Employment requirements, annual openings</td>
<td>Elem, Soc</td>
<td>Proj</td>
<td>N</td>
<td>1968-80</td>
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</table>

**Summary**

This report, by providing projections of occupational requirements and supply and showing how planning strategies and implications could be drawn from the preferred information, is specifically geared to the needs of educational planners. An entire section discusses occupational data needs in the planning of education and training and how market shortages could be alleviated by enlightened policies and decisions based on an early assessment of future labor market needs. The need for projections in educational planning is reiterated by showing the less than perfect adjustments occurring in the labor market and its relative lack of response to changes, particularly in occupations that require extended training. Four key elements needed to evaluate training needs are included: (1) projections of the number of workers required in each occupation, (2) estimates of needs to replace workers.
### Educational Personnel Statistics (Continuation)

<table>
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<th>(1) Group</th>
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<th>(4) Data Type</th>
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<th>(6) Time Period</th>
<th>(7) Table</th>
<th>(8) Page</th>
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</table>

**Summary (Continuation)**

who die, retire, and where data allow, who transfer to other occupations; (3) data on output from various training programs, and (4) information on ways workers prepare for occupations (see p. 3). The basic assumptions underlying these key elements to planning are also discussed showing relationships between prevailing or anticipated conditions upon market demand, i.e. the assumed level of housing having an impact upon the demand for construction craftsmen. Illustrative samples showing how implications for training could be drawn from the data analysis are provided (see pp. 5-7). The report then presents job information for a variety of occupations. The section on elementary and secondary teachers includes a preliminary assessment of teacher certification and projected employ—

...Evaluation

This is a much needed report in the area of fitting educational personnel projections into the scheme of educational planning. The projections, however, are general estimates with no finer breakdowns of the overall totals. To overcome this shortcoming, the user could use the general framework of analysis and key elements supplied by this report to determine need levels in smaller geographic areas or within specific program or instructional areas.

In essence, the material is more valuable as a reference material for a school counselor than as a basic data tool for the projection of educational personnel. In addition, the report does not show the methods, models, data and underlying assumptions for the projection.
Educational Personnel Statistics (Continuation)

<table>
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<tr>
<th>Group</th>
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<th>Time Period</th>
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</table>

Summary (Continuation)

ment needs throughout the 1968-1980 period. Based on current trends, 2.7 million new teacher education graduates may be expected to enter teaching in this period, and 1.4 million are expected to re-enter. These supply estimates would exceed the projected annual need of 99,000 teachers in elementary levels and 101,000 teachers in secondary levels, or an annual total need of 200,000.

Evaluation
The EMAP Abstract Card Codes

Codes for each type of personnel group and its accompanying statistical information were developed for the statistical format on the EMAP Category Area Entry Form, for considerations of space, brevity, and abstracting speed. Where possible the most popularly used abbreviations were chosen to designate included terms or in most cases, the first one of two letters of the terms were used. The codes are presented consecutively by each column of the format. See Figure 2.

Figure 2.
EMAP Category Entry Form
Statistical Format

<table>
<thead>
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<th>Column 1</th>
<th>Column 2</th>
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<td>Ed. Level</td>
<td>Type of Data</td>
<td>Area</td>
<td>Time Period</td>
<td>Table</td>
<td>Page</td>
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</table>

Column 1 "Group" - The educational personnel group referred to in the abstracted report

Column 2 "Subject" - A short description or a further clarification of the statistics available for the above group

Column 3 "Educational Level" - A classification of the statistics by education level such as nursery, kindergarten, elementary, or secondary

Column 4 "Type of Data" - Characteristics of the statistics in terms of the form of presentation, i.e., whether these be actual frequency counts from a population or a sample survey, or proportions, percentages or ratios

Column 5 "Area" - Type of geographic coverage, whether these be national, state or local statistics

Column 6 "Time Period" - The date of the data collection

Column 7 "Table" - Numbers of the tables in the report containing the statistics

Column 8 "Page" - Pages in the report containing the statistics
<table>
<thead>
<tr>
<th>Column 1</th>
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Column 4: Appendix | App  | Chart | Cht
"Table" | Figure | Fig
The IMP Indexing System

The IMP Subject Index

The IMP index was designed to provide as much information as possible on each abstract included and to allow cross-indexing between the category areas and educational personnel groups. The index in its present form is a catalog of all included materials and studies showing each entry by seven to eight descriptors. See Appendix 3.

The choice between a card file subject index or a catalog format was decided in favor of the latter since it yields the following advantages:

- serves as a master list of all catalog materials and yields a running count of the total current number of materials within the file
- shows all studies by type of educational personnel
- shows all studies classified by category areas, subcategories, and additional key words (for further discussion see p. 26)
- shows all studies by type of geographic coverage, i.e., national, state and local
- shows all studies by educational level
- shows studies by program and instructional area
- shows the type of each of the studies, i.e., evaluation, survey, guide
- shows the date of the data within each of the studies
- allows the user to browse through the index and combine several descriptors and narrow down the choice of materials related to his search. For example, by checking across a page of the index, the user can select all national surveys on teachers of the disadvantaged containing data not earlier than 1967.

EMAP Subject Index Summary

Recognizing that the above-mentioned type of search may be tedious since the user may have to check the whole index log, a summary of the cross-indexing by type of personnel crossed against the category areas and key words is provided. This summary appears together with the Coordinated Subject Index and classifies on the right side, all abstracts showing data by type of personnel group in alphabetical order -- teachers, administrators, supervisors, paraprofessionals, etc. On the left side, abstracts are classified by category area in numerical order. For purposes of clarification, the abstract numbers listed on the left side of the index are further classified by major focus studies, minor focus studies, and studies with other relevant information. To exemplify this classification system with regard to recruitment, major focus studies would zero in on recruitment, minor focus studies would contain substantial information on recruitment, although they would focus primarily on other subject, i.e., selection with related information on recruitment techniques. Only accession numbers appear in this summary. Numbers that match across both sides of the index summary contain information on both the personnel group and the category area classification. See Appendix 2.
Sample Searches

Search A - Guidance Counselor Preparation and Training

1. Check guidance counselors under Guid C on the left side of the Subject Index Summary.

2. Check Training, preservice, and Training, inservice on the right side of the Summary.

3. Note the numbers common to both sides of the Subject Index Summary under each of the above terms. Numbers that are common to both sides of the index will always be relevant to the particular search. Numbers that appear only on one side or another may or may not be relevant.

4. Use these numbers to find the materials in the abstract file.

Search B - Training of Guidance Counselors, national studies only, data not earlier than 1967

1. Use the sequential number of the accession numbers noted down in Search A to check the descriptors of these materials on the Coordinated Subject Index. Scan the "geographic area" and the "date of data" columns.

2. Eliminate the accession numbers of materials that do not answer the criteria of Search B.

3. Proceed to the Abstract File and use the remaining accession numbers to find the desired abstracts.
The EMAP Title Index

Figure 3

Sample Title Index Entry

Title of Document

OCCUPATIONAL MANPOWER
TRAINING NEEDS

Category Area Number

CA 003 002

Rules for the Title Index

1. Titles beginning with articles such as "The", "A", "An" are filed alphabetically according to the first major word in the title immediately following the article

"The Performance Contract in Gary" is filed under P for "Performance"

"A Study of Head Start" is filed under S for "Study"

2. Articles within titles are considered in alphabetization

"A Study in Child Care" precedes "A Study of Head Start"

3. Prepositions are assigned equal weight in alphabetization

"To meet the Challenge of the Handicapped Child" would be filed under T

4. Titles beginning with numbers unless these are specifically spelled out are filed alphabetically according to the first word immediately following the number

"1968-1969 Annual Report" would be filed under A for "Annual"

"One hundred and twenty-eighth Annual Report" would be filed under O for "One"
5. Organizational titles such as AFT, NEA or other similar abbreviations and acronyms are filed alphabetically as spelled-out titles. "AFT BEST for Differentiated Staffing" would be filed under A with succeeding letters in the title "American Federation of Teachers" used accordingly in the alphabetization.

The Author/Institution Index

Figure 4

Sample Author/Institution Index Entry

Author/Institution

Bureau of Labor Statistics

Occupational Manpower Training Needs

Title of Document

CA 003 002

Sequential Number

242

Rules for the Index

1. Materials are filed by author’s surname and subsequently by his first and second names if needed.

2. Institutional Titles beginning with articles such as "The" are filed alphabetically according to the first major word in the title immediately following the article. "The National Association of Secondary School Principals" would be filed under N for "National".

3. Agencies considered part of larger organizations are filed by their title and secondarily, by the larger organization. "ERS Reporter, American Association of School Administration" would be filed under E for ERS and subsequently by the other letters in the agency name.
4. Authors connected with organizations, colleges and universities are indexed according to their names followed by their university or association.

5. State department or annual reports attributing authorship to superintendents are filed under the name of the state department.

6. To deal with variations in organizational title such as New York State University or University of the State of New York, all material carrying this authorship would be indexed under "State University of New York" or under S.

7. Agencies under the Office of Education are filed under OE and alphabetized by bureau or agency except NCES which is filed under N.

8. Documents from the Senate and House of Representatives, mostly committee reports, are filed under "U.S. Congress" and alphabetized by Committee title.
EMAP Categories, Subcategories and Keywords

The choice of standard, useful index entries for the EMAP Coordinated Subject Index Log (see Column "category, subcategory, key word" Appendix 2) involved considerations. For instance, problems in the standardization of educational terminology have still to be resolved at the current time as can be noted in the increasing number of materials developed in this area. Various groups have attempted to achieve both uniformity in educational terminology and indexing utility; however, the need still exists for an inclusive, up-to-date source on standard educational manpower terminology in line with EMAP's objectives. In this respect, EMAP draws from available sources such as OE handbooks of educational terminology, other major information indexing systems, the growing body of general manpower terminologies and educational literature to help delineate the scope of the category areas and afford the user a sharper focus on EMAP information.

To derive a hierarchical classification and description of the material contents appearing on each abstract entry for inclusion into EMAP, each material is indexed by category area and by sub-categories in the subject column of the EMAP Coordinated Index Log.

Efforts were exerted to achieve brevity and uniformity in describing the contents of the selected reports and studies by using the following developed list which was accordingly expanded when new material undergoing indexing could not be described by the existing categories or subcategories.

**CA 001 Recruitment**
- Trends
- Practices
- Standards
- Sources
- Policies

**CA 002 Selection**
- Trends
- Standards
- Practices
- Policies

**CA 003 Supply and Demand**
- Components (elements of supply and demand, i.e., new teachers, number needed for replacement and new hires)
  - By geographic area (national, regional, etc.)
  - By instructional field (mathematics, vocational education)
  - By type of personnel (teachers, pupil personnel staff)
  - By educational level (elementary, secondary, etc.)
CA 004  Accreditation/Certification
          Standards/requirements
          Status
          Eligibility
          Personnel classification
          Trends

CA 005  Utilization/Differentiated Staffing
          Trends
          Practices
          Staffing model programs
          Impact
          Status

CA 006  Performance
          By type of educational personnel
          By educational level/program area
          Trends in measurements
          Model programs
          Student performance
          Educational outcomes

CA 007  Training, Preservice
          By type of personnel
          New programs/innovations
          By type of skill/proficiency
          Costs
          Issues
          Methods
          Needs
          Instructional area

CA 008  Training, Inservice
          By type of personnel
          New programs/innovations
          By type of instructional area
          By type of skill/proficiency
          Costs
          Issues
          Methods
          Needs

CA 009  Earnings
          By instructional area
          By geographic area
          By type of personnel
          Salary schedules
          Salary levels
          Merit pay
          Earnings from other employment.
**CA 010 Career Patterns**
- Mobility
- Tenure
- Turnover
- Promotion
- Other components

**CA 011 Support Professional Roles**
- Supervisors
- Curriculum designers
- Media specialists
- Training
  - Roles/new responsibilities
- New professionals
- Status

**CA 012 Civil Rights**
- Racial balance
- Racial integration
- Personnel characteristics by race
- Racial discrimination
- Historical development/trends
- Classroom climate

**CA 013 Education of the Disadvantaged**
- Educational personnel
  - By type of disadvantage
- Training and selection of personnel
- Programs/innovations
- Issues
- Problems
- Programs/personnel needs

**CA 014 Vocational Education**
- Types of personnel
  - By type of instructional area (agriculture, distributive education, etc.)
- New programs/innovations
- Issues
- Problems
- Educational level
- Training
- Planning
- Supply and demand
CA 015 Bilingual Education

Educational personnel
   by type of minority group
Programs/innovations
   Training
   Status
   Educational level
   General coverage

CA 016 Early Childhood Education

Type of personnel
   Programs/approaches (Head Start, etc.)
   Educational level (nursery/kindergarten, etc.)
Personnel needs (supply and demand)
Program needs/costs
Status
Trends
Training

CA 017 Educational Leadership

Administration
  Administrative personnel
    School superintendents
    Principals
    Assistant principals
    Department heads
  Administrative qualifications
  Administrative characteristics
  Administrative background
  Administrative leadership
  Administrative attitudes
  Administrative costs
Decision-making patterns
Evaluation
Selection and retention
Status

CA 018 Paraprofessionals

By types of paraprofessionals
  Career ladder concepts
  Recruitment
  Selection
  Training
  Sources
  Status
  Earnings
  Role/duties
Utilization by educational level
Environmental health teachers
Other environmental health personnel
   By type of program
   By educational level
Other educational programs
   Natural science
   Social science
   Humanities and languages

Pupil Personnel Services
Type of personnel
   By educational service responsibility
   By educational level
   In new programs/innovations
Training
Status
Expansion of services

Special Education
Educational personnel
   By type of program
   By educational level
Training
New programs/innovations
Utilization
Status

Public and Teacher Attitude
By types of attitudes
By types of population
By types of educational personnel
By geographic area
By time period

Teacher Associations/Unions
Membership
Negotiation issues
Negotiation activities
Teacher strikes
Work stoppages
Policies/Union activities
Leadership
CA 024 Legislation

Laws and regulations
   Affecting school personnel
   By type of personnel
   By type of program/area
   By educational level
   By geographic area
   New and proposed legislation

CA 025 Teacher Characteristics

General coverage
Types of educational personnel by:
   Educational preparation
   Experience
   Certification status
   Type of assignment
   Teaching load
   Marital status
   Age
   Sex
   Earnings
Trends

CA 026 Educational Technology

Programs
Educational personnel
   Television teachers
Computer-assisted instruction
Utilization
New developments

CA 027 Future Societal Needs/Trends

Trends
   Educational planning
      By instructional field
      By level
      By type of program
      By type of target population
   Conceptual developments
   Educational issues

CA 028 Major Discipline Issues

Discipline
   Trends
   Practices
   Community attitudes
   School attitudes
Teacher behavior
Pupil behavior
Classroom control
CA 029 Community Relations

Type of institutions/groups
Type of services rendered
Trends
Practices
Cooperation levels (between school - community)

CA 030 Innovation/Experimentation

Innovations
Experiments
Educational change
  Change agents
  Acceptance of change
  Issues in change
  Processes of change
VI. Appendices
Appendix I

GUIDELINES FOR ABSTRACTORS

Choice of Materials For Inclusion Into the ERIC Catalog

1. The materials should include numerical data formats (tables, graphs, charts, etc.). The focus of our abstracts is primarily quantitative.

2. The materials which do not contain any of the above should at least have estimates which are incorporated in the text.

3. Materials which do not show any of the above but may also be included should show trends, new developments, future areas of interest, priorities, etc.

4. Most important, the quantitative and qualitative descriptors should concern educational personnel. Where pupil population or other subjects (schools, programs, training, salaries, etc.) are being abstracted, they should be related to educational manpower and this should clearly be indicated in the material. The educational manpower that we have identified in our project include the following:

   teachers, administrators and administrative personnel, supervisors and curriculum designers, new professionals, pupil personnel staffs such as guidance counselors, social workers, school psychologists, speech and hearing specialists, health workers, other personnel such as paraprofessionals, in preschool, elementary and secondary private and public school systems.

5. Choose materials that have national implications or that are nationwide in scope, or if they are smaller studies such as state or local studies, assure that they have sound methodology after checking size of sample, reliability or indicate whether based on expert opinion or other inputs.

6. The materials should be recent, the date of the data should be after 1962, unless some prior nationwide or significant ones have not been duplicated. These should be noted down for further verification to check whether they have been updated.
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**Appendix 2**

**EMPLOYEE GUIDE**

**Guidance Counselors**

**CAREER AREAS**

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<td>Carrier Patterns Persistence</td>
<td>Elder-care</td>
<td>Elder-care</td>
<td>L (NY city)</td>
<td>Follow-up</td>
<td>Elder-care</td>
<td>1/2</td>
</tr>
</tbody>
</table>
Appendix 4

MAJOR DATA COLLECTION SYSTEMS
To be analyzed
(Initial Listing)

I. OEOE
   A. ELSGIS
   B. Staffing Study - Forms x, y, z
   C. Joint Federal/State Task Force on Evaluation
   D. ERIC
   E. Office of Planning and Evaluation
   F. Voc Ed
   G. Handicapped
   H. Others

II. Census

III. Labor (BLS - Manpower Administration)

IV. NSF

V. Library of Congress

VI. Civil Rights (H.E.W. and Justice)

VII. Interior

VIII. Research Coordinating Units

IX. Department of Agriculture

X. DOD

XI. VA

XII. NEA

XIII. ACL

XIV. Association of Junior Colleges

XV. Various Research Labs

XVI. State

XVII. Local

XVIII. Universities

XIX. Professional Associations (Physicists, Chemists, Economists, etc.)

XV. General Literature Search
V. Bibliography
Bibliography

Sources of descriptors and terminologies for the development of the EMAP Subject Index and the general literature search:


3. OE Handbooks:


   **Vocational Education and Occupations**, DVTE and US Manpower Administration, 1969.


5. General sources: library and information systems handbooks/articles and educational literature:


