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ABSTRACT

This document is one of a series describing the background, functions, and utilization of the Regional Information System (RIS), developed by the Michigan-Ohio Regional Educational Laboratory (MOREL). RIS, which was developed to improve the accessibility of information for the educational practitioner, is described in this handbook. The handbook is also designed to help others plan, develop, and operate information systems. Included in the handbook are: (1) an introduction to RIS; (2) a detailed description of the System's two components: the Resource Bank and the Referral Library; (3) information on installation activities; (4) discussions of staffing, facilities, costs, the timetable, and evaluation; and (5) a summary of the evolution of the System. Appendixes include: the Resource Bank coding scheme, the Association Referral Information Service (ARIS) coding scheme, a list of suggested materials for a basic referral library collection, a sample numeric subclassification system, keyword in Context (KWIC) listings, the MOREL search procedure form, a sample data sheet, and an annotated list of selected collections of materials in the MOREL Information Center's information file. (Author/JB)

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REGIONAL
INFORMATION
SYSTEM
for educators

Establishing the Information System:

An Operational Handbook

by Charles Kromer & James Doyle

**MICHIGAN-OHIO
REGIONAL
EDUCATIONAL
LABORATORY**

3750 Woodward Avenue Detroit, Michigan 48201

LI 001 812



This document is one of a series describing the background, functions, and utilization of the Regional Information System (RIS) developed by the Michigan-Ohio Regional Educational Laboratory. The series includes:

Information Services — A Survey of the History and Present Status of the Field

Establishing the Information System — An Operational Handbook

*A Searcher's Manual of Information Resources
Installation and Evaluation of the RIS*

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July, 1969

Preface

Education has long been hampered by the apparent time lag between educational research and practice. One factor contributing to this situation is the problem of accessibility to needed information by the educational practitioner. The Michigan-Ohio Regional Educational Laboratory developed the Regional Information System (RIS) to help solve the accessibility problem.

This handbook is designed to help others plan, develop, and operate information systems. Program objectives and cost/effectiveness data are provided.

Decision-making requires information. The Regional Information System described here brings to educators varying kinds and amounts of information. Use of this information will aid in the solution of educational problems.

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1.

The Regional Information System

The MOREL Regional Information System (RIS) provides one answer to the information problem of educators. Teachers, administrators, and boards of education are continually seeking ways of improving educational practice in their school districts. An awareness of what others have tried and the opportunity to visit them would prove most helpful. The RIS serves to link educators with such resources. In addition, printed materials, project descriptions, and available consultants are identified and referred to those expressing an interest.

Two basic components make up the system: The Referral Library and the Resource Bank. The Referral Library houses a collection of abstracts, bibliographies, unique documents, and indexes, as well as publications of the regional educational laboratories and the research and development centers.

The Resource Bank identifies, classifies, and retrieves upon request meaningful referrals to programs, projects, and consultants. Emphasis is on operational

programs which can serve as "on the spot" testimonials. The opportunity to communicate directly with those who have been responsible for initiating successful changes is one of the most significant contributions of the RIS.

Educators utilize the system by submitting a request for information—in person, or by telephone or mail. The question is analyzed and, if it is incomplete, unclear, or not sufficiently specific, the requester is contacted for further information. Once the exact nature of the inquiry is determined, appropriate alternatives are identified and sent to the requester.

It must be emphasized that the RIS is a referral information service in that it seeks to link educators with other educators, programs, or printed references. It does not provide copies of publications, books, etc., nor does it engage consultants or arrange visitations.

The diagram in Figure 1 illustrates the procedures followed in handling a typical inquiry.

Figure 1

PROCEDURES FOLLOWED IN HANDLING A TYPICAL INQUIRY

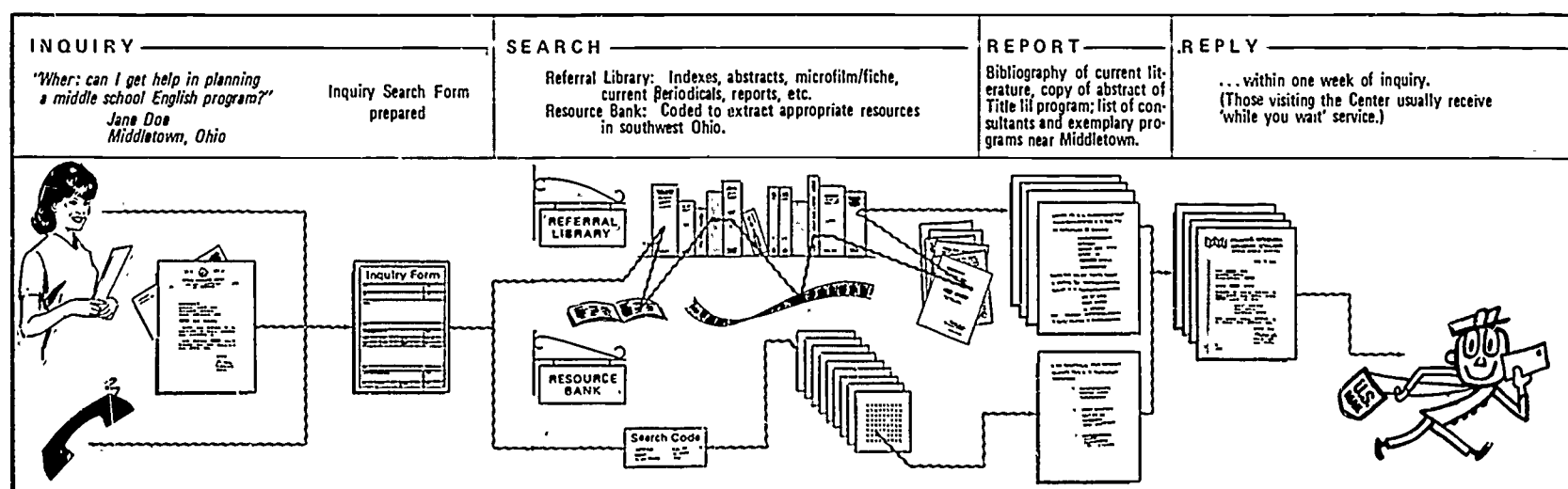


Figure 2

RESOURCE BANK CODING SCHEME
(partial sample, for McBee)

- 1 PHILOSOPHY
- 150 Psychology
- 2 RELIGION
- 3 LITERATURE
- 31 American literature
- 32 English literature
- 4 General language
- 42 LANGUAGE ARTS
- 421 Reading
- 4211 Initial Teaching Alphabet
- 4212 Programmed Reading
- 4213 Words in Color
- 4214 Experimental Programs--
Elementary
- 4215 Experimental Programs--
Junior High
- 4216 Experimental Programs--
High School
- 422 Spelling
- 423 Handwriting
- 424 Speech
- 4241 Drama
- 4242 Auditorium
- 425 Poetry
- 426 English language composition
- 4261 Journalism
- 427 Grammar
- 428 Linguistics
- 429 Work-study skills
- 43 German
- 44 French
- 45 Italian
- 46 Spanish
- 47 Latin
- 48 Greek
- 491 Other languages
- 49 Hebrew

E. SUBJECT SPECIALIZATION

- 514 Trigonometry
- 517 Calculus
- 519 Experimental Programs
- SCIENCE
- 52 Astronomy
- 521 Advanced Courses
- 522 Experimental Courses
- 523 Special Materials
- 53 Physics
- 531 Harvard Project Physics
- 532 Physical Science Study Committee
- 533 Advanced Courses
- 534 Experimental Courses
- 535 Special Materials
- 536 Physical Science
- 54 Chemistry
- 541 Chemical Bond Approach
- 542 C.H.E.M. Study
- 543 Advanced Courses
- 544 Experimental Courses
- 545 Special Materials
- 55 Geology
- 551 Weather
- 552 Advanced Courses
- 553 Experimental Courses
- 554 Special Materials
- 56 Paleontology
- 561 Advanced Courses
- 562 Experimental Courses
- 563 Special Materials
- 57 Biology
- 571 Physiology
- 572 BSCS--Biological Science
Curriculum Study
- 573 Advanced Courses
- 574 Experimental Courses
- 575 Special Materials
- 576 Sex Education
- 58 Botany

Figure 3

RESOURCE BANK CODING SCHEME
(partial sample, for Access)

MATHEMATICS AND NATURAL SCIENCES

Mathematics, General Science, Astronomy, Biology, Chemistry, Earth Science, Physics

MATHEMATICS

- 1110 Arithmetic
- 1111 Addition, subtraction
- 1112 Decimal, fractions
- 1113 Multiplication, division
- 1114 "New" mathematics
- 11141 Numeration
- 11142 Set theory
- 1115 Ratios, proportions, percent
- 1116 Theory of numbers
- 1118 Refresher arithmetic
- 1119 Remedial arithmetic
- 1120 General Mathematics
- 1121 Non-college bound
- 1122 Theory of equations
- 1128 Refresher mathematics
- 1129 Remedial mathematics
- 1130 Systems of Measurement
- 1131 Fluids
- 1132 Metric
- 1133 Money
- 1134 Non-metric
- 1135 Time
- 1140 Specialized Mathematics
- 1141 Business math
- 1142 Computer math
- math

- 1230 Physical Sciences
- 1231 Chemistry
- 1232 Physics
- 1240 Ecology
- 1250 Special Instruction
- 1251 Science Fairs
- 1258 Refresher Science
- 1259 Remedial Science
- 1270 Advanced Instruction
- 1280 Field Trips
- 1285 Laboratory Instruction
- 1290 Experimental Concepts/Courses
- 1291 AAAS (process approach)
- 1292 Elementary School Science Project
- 12921 California
- 12922 Illinois
- 12923 Utah
- 1293 Elementary Science Project
- 1294 Elementary Science Study
- 1185 Minnesota Math and Science Teaching Project
- 1295 Science Curriculum Improvement Study
- 1296 School Science Curriculum Project

2.

Referral Phase Operation

Chapter 1 introduced the Regional Information System. This chapter describes in detail the operation of the System's two components: the Referral Library and the Resource Bank. Included are procedures for selecting and processing input, operation of the components, and handling requests.

These procedures relate to each component separately in addition to referring to common elements wherever appropriate. The organization of this chapter is intended to facilitate an understanding of the operational procedures of the System, allowing the reader to judge the merits of the System and, if appropriate, establish the System in terms of his specific need.

Resource Bank

Classification

The Resource Bank's design allows for the classifying, encoding, and retrieval of exemplary people, programs, and projects. Classification of each resource (input) is made possible through the utilization of a coding scheme. The coding scheme defines in specific terms (descriptors) the activities of individuals, projects, and programs expressed in terms of competencies. Essential categories include: position, methodology, location, type of institution, funding, special interest, and subject area. Figures 2 and 3 illustrate two codes developed thus far, each being appropriate to specific retrieval equipment. These coding schemes, presented in detail in Appendices A and B, were designed in conjunction with specific types of retrieval equipment.

Equipment

Two types of rather inexpensive retrieval equipment have been used thus far. A brief introduction to the McBee Keydex System (Figure 4) and the Access 60 System (Figure 5) follows.

McBee System

The *McBee System* utilizes the coding scheme detailed in Appendix A. The strength of this system is its ability to be flexible in handling a request. The simple matter of exchanging (manipulating) cards to refine or elaborate on a given area of a request provides for this flexibility. Equally important, however, is the time commitment necessary to drill (encode) the individual Mc-

Access 60 System

The *Access 60 System* utilizes the coding scheme presented in Appendix B. This system incorporates the concept of computer-based number codes with magnetic selection and can serve as a transitional system while consideration is given to computerized systems. Another advantage of this system is the elimination of the drilling step in processing the identified resource. With

(McBee)

Bec cards. Greater flexibility necessitates more descriptors, hence more cards. The investment in equipment and related materials is approximately \$2,000.

(Access 60)

this system, the data form itself serves as the encoded card. Flexibility in this system is largely limited to the nature of the coding scheme used to describe the activities of the resource. In addition to moderate materials cost, the operational expenses include a \$75 monthly rental plus 2¢ for each search.

Operation

Once a resource is identified, acquisition of essential data describing the activities or competencies is necessary to allow for the encoding and subsequent retrieval operations. The descriptions which follow indicate the forms and procedures necessary to classify, encode, and retrieve information.

McBee System

The *McBee System* utilizes the following forms:

Coding Scheme (Figure 2 and Appendix A)

Personnel Data Form (Figure 6)

Program Data Form (Figure 7)

Master Record Card (Figure 8)

McBee Descriptor Card (Figure 9)

Access 60 System

The *Access 60 System* utilizes the following forms:

Coding Scheme (Figure 3 and Appendix B)

Personnel Data Card or Program Data Card (Figure 11)

Cover letters accompany these forms as illustrated in Appendix D.

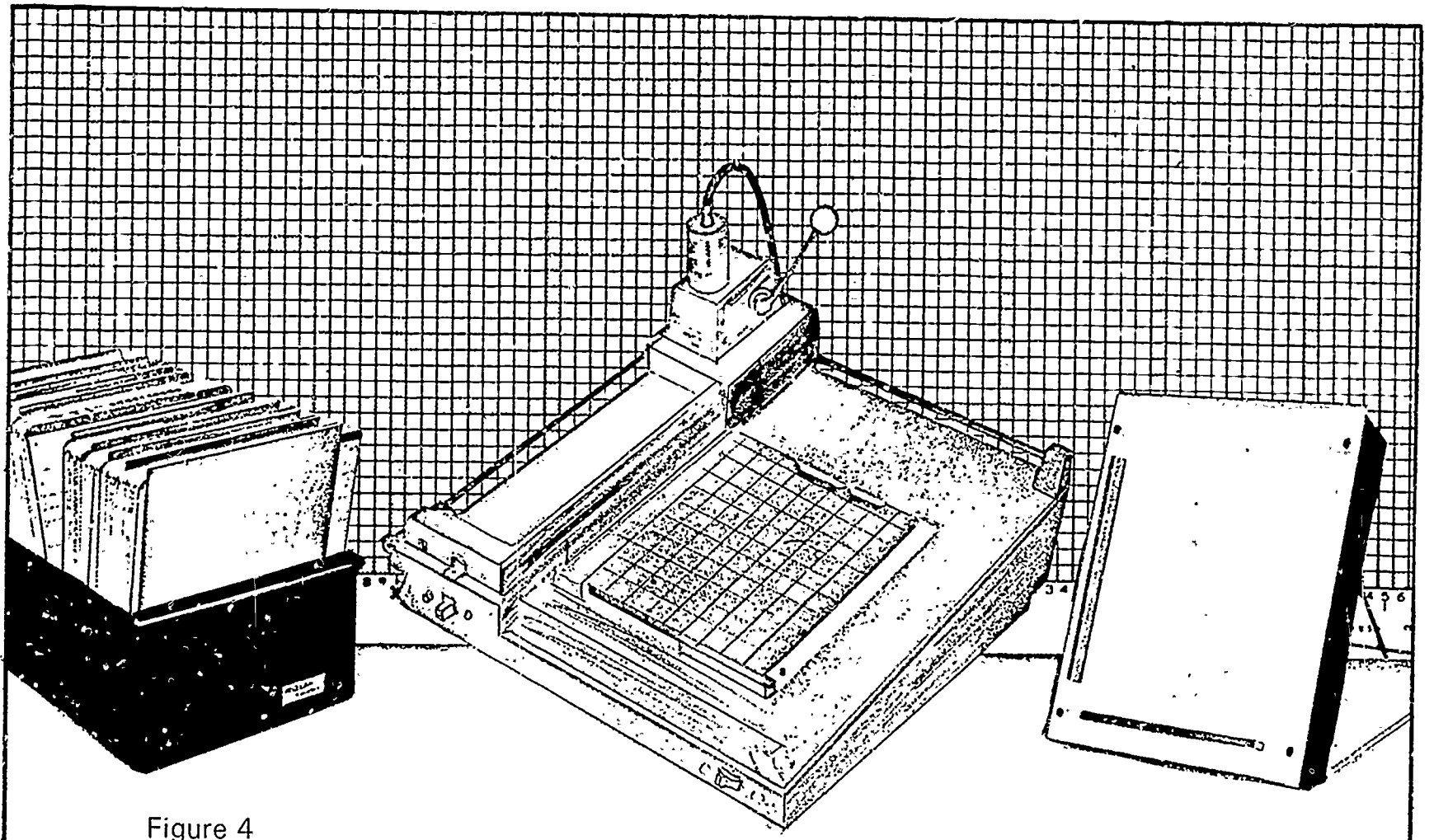


Figure 4

McBEE KEYDEX SYSTEM

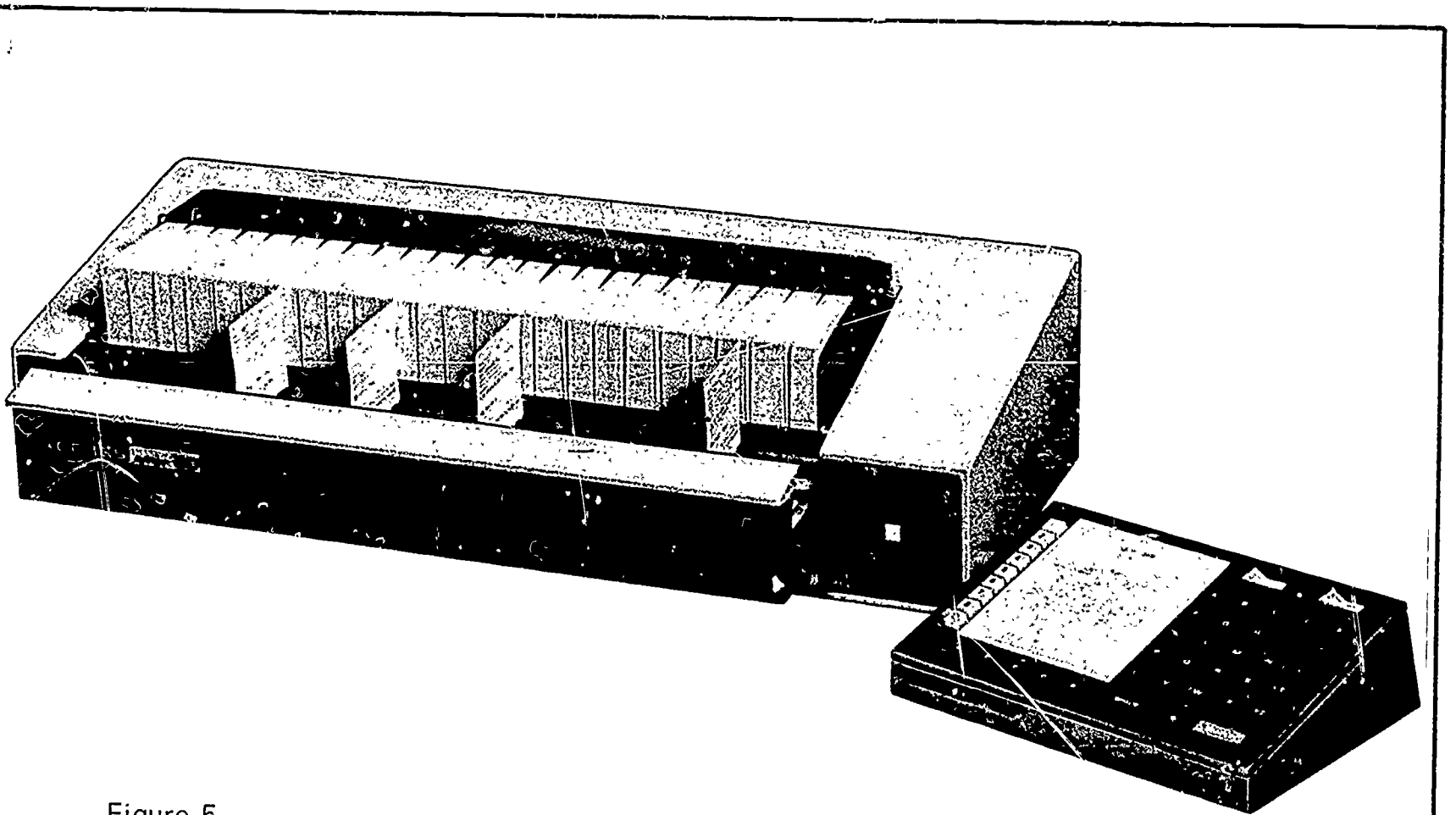


Figure 5

ACCESS 60 SYSTEM

(McBee)

These forms are color coded for ease of identification. Form cover letters accompany many of these forms and are illustrated in Appendix C.

To encode, identified resources are sent the personnel or program data form, coding scheme, and appropriate cover letter.

1. The completed data form is returned to the Information Center where information describing the resource is transferred to the master record card. At this point, the master record card, data form, and all supporting documents which may have accompanied the returned data form are assigned a four-digit accession number.

2. The data form and supporting documents are filed in chronological order by accession number.

3. The completed master record card is used to select the appropriate McBee descriptor cards.

4. These descriptor cards receive a single drilling at the matrix point representing the accession number (see Figure 9). The McBee cards and the master record card are then filed.

(Access 60)

To encode, identified resources receive a package containing the coding scheme booklet. The last page of this booklet represents the personnel or program data card. Directions for completion appear on the cover letter and first page of the coding scheme booklet.

1. The completed data card is returned to the Information Center where information describing the resource is transferred to a special card containing a magnetized edging.

2. At this point the data form completed by the resource and any supporting documents are filed according to the code descriptor title and number indicated on the data form.

3. The special card, now containing the description of the resource, is placed in the Access encoder and keynotched. Keynotching is the process of cutting the edge of the special data card in a manner that corresponds to the code number describing the resource.

4. The encoded data card is then randomly placed in the Access trays.

(McBee)

Service (handling a request) is performed by reversing portions of the above described process.

1. The request (inquiry) is analyzed, with the key descriptors identified from the coding scheme and noted on the inquiry form (see Figure 10).

2. This inquiry form is used to select the McBee descriptor cards previously drilled. This form is also used by the Referral Library to structure their search. By placing these McBee cards on the McBee light source, points of light emanating from the stack of cards (optical coincidence) represent resources significant to the request.

3. By reading the horizontal and vertical reference to the matrix point, the four-digit accession number is determined, identifying the specific resource.

4. The data form of the identified resource, located in the file by using the accession number, is copied and sent to the requester.

5. The descriptor and master record cards are then refiled.

(Access 60)

Service (handling a request) is performed by using the Access Console.

1. The request (inquiry) is analyzed to determine the key descriptor identified from the coding scheme and noted on the inquiry form. This form is also used by the Referral Library to structure their search.

2. The code number, corresponding to the key descriptor, is entered by using the keyboard of the Access Console.

3. By depressing the console search key, the selector withdraws the appropriate data cards which represent resources significant to the request.

4. The data cards representing the identified resources are copied and sent to the requester.

5. The data cards are then randomly replaced in the Access trays.

Referral Library

Classification

The Referral Library's design calls for the linking of a requester to a variety of printed resources allowing the requester a choice of alternatives. This service can function independently of or in conjunction with the Resource Bank previously described. Again it should be emphasized that the Reference Library, like the Resource Bank, refers sources of information, not actual documents.

As designed, the Referral Library is not a traditional library, but a bibliographic center. What is essential is the bibliographic and reference tools necessary to identify appropriate materials. These tools divide into several broad types, or physical formats:

BOOKS A basic collection of important books in the field of education for reference use.

BIBLIOGRAPHIES An extensive collection of both externally acquired and internally produced bibliographies.

REFERENCE A complete collection of general and specialized reference tools.

CATALOGS A basic collection of publisher, supply, college, and other catalogs for reference use.

SERVICES Subscriptions to the prominent commercial loose-leaf updating services and commercial newsletter services.

INDEXES A complete collection of periodical, serial, and book indexing and abstracting tools; as well as indexes to specialized collections.

ERIC A complete collection of Educational Resources Information Center microfiche and ERIC Clearinghouse publications, including appropriate indexes.

SPECIAL Unique collections of materials that could be of use to users, but which are unavailable elsewhere.

PERIODICALS A basic collection of education journals, magazines, and newsletters for reference use.

INFORMATION FILE An information file designed to give broad subject control to bibliographies, articles, papers, reports, abstracts, etc., that do not easily fit elsewhere.

A suggested list of specific titles illustrating these formats can be found in Appendix E. These titles, including approximate prices, are categorized into first and second priority items.

In organizing special collections of materials, the classification system should accomplish the following:

1. Arrange the materials in question by major physical formats meaningful to users
2. Be organized consistently throughout for clarity

3. Leave room for expansion, both of numbers of formats (horizontally) and within formats (vertically)
4. Facilitate efficient and high quality retrieval of materials

Most traditional libraries classify materials by *Dewey Decimal Classification* and *Library of Congress* systems. These systems were designed to encompass all human knowledge and seem inappropriate for narrowly focused collections. Therefore, experience has shown that ease of storage is best accomplished by physical formats as the basic outline of a classification scheme. For example, books would be assigned the letter "A", bibliographies "B", etc. Within each format, a sub-classification system must be used to insure each document a "unique address" in the collection. That is, no two individual titles should have exactly the same classification symbol (call number). Described below are two examples of subclassification systems that can be used within the major formats:

1. A numerical scheme adapted from the *Dewey Decimal Classification*.

The desirable aspect of this subclassification scheme is arrangement by *subject* which allows browsing, as well as the capability of coordination with the Resource Bank coding scheme. Such a library collection should have a catalog for subject, author and title searching.

For example, a reference book ("C") on child psychology (15) by Fritz Redl (R) entitled *Mental Hygiene in Education*, copy one, would be classified as follows: (See Appendix F)

C 15 R c.1

2. An alphabetical scheme adapted from author and title.

This scheme utilizes the first four letters of the author's last name (or the first important word in an organization's name) followed by the initials of the important words in the title. In this way, it eliminates referring to a subject list which was essential in the subclassification system mentioned above. Such a library collection should have a catalog for subject, author and title searching.

Thus, the reference book by Fritz Redl mentioned above would be classified:

C Redl MHT c.1

Organization

A basic consideration of classification schemes is ease of cataloging. Examples of two methods of cataloging are discussed here.

Due to the unusual and ephemeral nature of technical educational materials, pre-printed cards — a fixture of the traditional card catalog system — are rarely

available. This results in the investment of considerable time and money in preparing these cards manually.

If computer facilities are available, a more economical and efficient method of cataloging is Keyword in Context (KWIC), which was developed to index a collection of technical literature "in depth" by alphabetically arranging all the descriptive "keywords" from the titles. This system works well with technical literature because it requires the presence of highly descriptive titles. The keywords (those indicative of the document's content) are used in place of the traditional card catalog subject headings. The computerized KWIC system is able to handle a large number of indexing terms per document in contrast to the laborious task of assigning headings in the traditional card catalog system. The computer repeats each title as many times as there are keywords in it, and "permutes" each entry so that all keywords appear in a column. The words in the title before and after each keyword also help the user to determine the context of the keyword. The computer also supplies author and classification symbol arranged lists resulting in a complete catalog with author, title, and subject control (see Appendix G). A major need of the KWIC index, like all book catalogs, is periodic updating. The computer, however, makes this task relatively easy. Thus, advantages of KWIC indexing are:

1. Indexing in depth by the use of keywords from the titles.
2. The presence of antecedent words before and after the keyword to make its meaning clear.
3. An end to time consuming preparation of catalog cards and subject classifying.
4. Control by author, subject, title, and shelf arrangement.
5. Relative ease of updating.

Thus, the design of the Referral Library, its systems of classification, types and amounts of materials, and updating procedures, affect the potential service capabilities in terms of comprehensiveness and quality. A library collection consisting of basic reference tools necessitates a strict referral service. However, an extensive collection of unique documents (i.e., unpublished reports, abstracts, internally produced bibliographies, etc.) readily available to the Referral Library, but not available elsewhere, can be utilized to expand the nature of the referral service. This expanded service would permit supplying copies of unique source documents.

Service

Critical to the successful processing of a request is the information specialist's knowledge of the Referral Library system and the tools and procedures it has evolved. To service the request, many activities are involved:

1. Examine the request and attempt to determine the user's exact needs from the information supplied.
2. If the request is unclear, it is desirable to "renegotiate" the request with the user.
3. Analyze the finalized request to identify the user's level of interest and the type of information appropriate to the identified need.
4. At this point, a description of the request (along with the name, address, telephone number, etc. of the user) should be recorded on the inquiry form. Space for noting work accomplished by the user, for results of the Library's search, and for the Resource Bank's search is desirable (see Figure 10).
5. Determine a strategy for conducting the search. Knowledge of the system will allow priority choices among information networks and centers and types of printed materials.
6. Based on the predetermined strategy, conduct the search of the Referral Library's materials identifying the resources relevant to the request.
7. After completing the search, indications of the resources identified are detailed on a "search procedure form" by check mark. For each check, a "data sheet" is supplied, explaining the types of and method for using the information (see Appendices H and I).
8. At this point, copies of documents, unique to the Referral Library, are identified and included with the previously identified materials.
9. A cover letter with the completed information package is mailed to the requester.
10. The completed inquiry form, a copy of the completed search procedure, and copies of correspondence to and from the requester are attached and filed chronologically for statistical purposes. Then, it would be desirable to file the inquiry forms by subject for consideration in handling similar requests.

A flow chart, illustrating the search procedures for the Resource Bank and Referral Library is found in Figure 12.

Michigan-Ohio Regional Educational Laboratory

Figure 6

RESOURCE BANK PERSONNEL DATA FORM

Please complete all relevant sections as completely as possible.
Additional pertinent information is solicited.

The items in bold face, marked with an asterisk (*), represent areas included in the Resource Bank Coding Scheme. Please refer to the enclosed scheme for suggested entries.

1. Name _____

2a. Job Title or Rank _____

*2b. Type of Position [Coding Scheme Section A] _____

3. Primary Responsibility: _____

4. Organization or Institution: _____

Name Phone
Address: No. & Street City County State ZIP Code

*5. Type of Organization [Coding Scheme Section B]: _____

6. Degrees Held: Degree Institution Year
Majors: Minors

7. Predominant Previous Positions:
a. Position Location Responsibility
b. Position Location Responsibility

*8. Methodology Utilized [Coding Scheme Section C] If you list more than one method, please rank according to significance.
If necessary, insert categories not appearing in the Coding Scheme. You may link combined areas (e.g., research-development) if they function as one in your situation.

a. c.
b. d.

*9. Special Interest [Coding Scheme Section D] Please handle categories in the same manner as described in Question 8.

a. c.
b. d.

*10. Subject Specialization [Coding Scheme Section E] Please handle categories in the same manner as described in Question 8.

a. c.
b. d.

11. Professional Memberships (including offices held):

12. Publications (major):

13. Recent Projects:

a. Project Name _____
Field or Area _____ Date _____
*Funding _____ Location _____

b. Project Name _____
Field or Area _____ Date _____
*Funding _____ Location _____

14. Recent Consulting Activities: *

a. Project and/or Institution _____
Specific Field or Area _____ Date _____
Person Responsible to _____ Location _____

b. Project and/or Institution _____
Specific Field or Area _____ Date _____
Person Responsible to _____ Location _____

15. Availability as a Consultant:

Limitations (subjects, geographic areas, etc.) _____

Requested honorarium: \$_____ per day.

16. Please list other persons you would recommend for inclusion in the MOREL Resource Bank:

Person or Program	Address	Interest Area
_____	_____	_____
_____	_____	_____
_____	_____	_____

NOTE: Supporting documents or additional explanatory information would be appreciated. Attach sheets to this form if you wish.

I hereby authorize the Michigan-Ohio Regional Educational Laboratory to release the above information to authorized individuals and agencies under the general policies of the MOREL Resource Bank.

Signature _____ Date _____

Figure 7

RESOURCE BANK PROJECT AND AGENCY DATA FORM

Please complete all of the relevant sections as completely as possible.
Additional pertinent information is solicited.

The items in bold face, marked with an asterisk (*), represent areas included in the Resource Bank Coding Scheme. Please refer to this scheme for suggested entries. Please print or type.

1. Name of Project or Agency
2. Parent Organization
*3. Type of Organization [Coding Scheme Section B]:
4. Location
5. Chief Officer
6. Brief Description of Major Activities and Services
7. Duration of Project
8. Legal Structure
*9. Methodology Utilized [Coding Scheme Section C]
10. Special Interest [Coding Scheme Section D]
*11. Subject Specialization [Coding Scheme Section E]
12. Project Publications (reports, surveys, etc.)
13. Instruments Used:
14. Please indicate the extent of your organization's interest in education:
15. Please list any other agencies or individuals that you would recommend for inclusion in the MOREL Resource Bank:
*16. Funding [Coding Scheme Section F]

NON-COMPLETION LIST YOURS



NOTE: Supporting documents or additional explanatory information would be appreciated. Attach sheets to this form if you wish.

Signature

Date

Figure 8
 MASTER RECORD CARD

NAME OF RESOURCE (Last, First)		Sent	1st Follow-up	2nd Follow-up	Entry
Address		Phone	MOREL Resource Bank / Master Record Card		
City - State - ZIP		Accession Number	Updated:		
Method of Procurement		Why Sent			
Descriptors Supplied		Enriching Descriptors	Non-Code Descriptors		
Comments:					
MOREL 303/68-P					

MICHIGAN-OHIO REGIONAL EDUCATIONAL LABORATORY 3750 Woodward Avenue Detroit, Michigan 48201		Information Center INQUIRY FORM	
Name		Date	
Title or Position		Phone	
Agency		EXTERNAL: <input type="checkbox"/> Present at Information Center <input type="checkbox"/> Telephone request <input type="checkbox"/> Mail	
Address		INTERNAL: <input type="checkbox"/>	
INQUIRY		Person Taking Request	
Work Already Accomplished on Inquiry			
<input type="checkbox"/> REFERENCE LIBRARY		Associated Descriptive Terms	
<input type="checkbox"/> GENERAL - MOREL		<input type="checkbox"/> Add to mailing list <input type="checkbox"/> Other: <input type="checkbox"/> Send general information	
<input type="checkbox"/> RESOURCE BANK Type of Resource: <input type="checkbox"/> Personnel <input type="checkbox"/> Project <input type="checkbox"/> Agency		NOTE: Please see MOREL Resource Bank Coding Scheme for detailed inclusions under the categories indicated.	
Nature of Funding		Methodology Used by Resource	
Type of Organization		Special Interest Area(s)	
Location		Subject Specialization	
Position			
RESULTS OF INQUIRY			
Searcher		Date Completed	
		User's time (if he is present) _____ hrs. Staff time _____ hrs. TIME EXPENDED Total: _____ hrs.	

Figure 11

PERSONNEL AND PROGRAM DATA CARDS

Type or print

Personnel Card

Name: Dr. Mr. Mrs. Miss first last

Institutional Affiliation: employer

Title: Phone: (area)

Address: no. and street city state zip

Description of official responsibilities and major interests:

Describe relevant training, experience and projects:

List any major publications:

Describe previous consultanting activities and list references:

List your resource speciality from the OEA ARIS code.

Table with columns: Code DESCRIPTOR title, Code NUMBER 4 or 5 digit, Grade level LETTER, Methodology LETTER, Region LETTER, Date entered. Includes instruction: Use separate card form for each entry.

ARIS

OHIO EDUCATION ASSOCIATION 225 EAST BROAD STREET COLUMBUS, OHIO 43215 PHONE: (614) 228-4526

Type or print

Program Card

Title of program, project:

Name of district, agency, organization:

Address: no. and street city state zip Phone: (area)

Name of contact person:

DESCRIPTION OF PROGRAM

Title:

Briefly describe this program:

Date project implemented:

- Project is: [] pilot project, or [] trial run, or [] partially implemented, or [] fully implemented.

Check those involved in the planning for this program:

- [] Department head, [] Students, [] Supervisor, [] Principal, [] Superintendent, [] Teachers, [] Others

What is most significant about this program?

Approximate annual cost per pupil involved: \$

List special equipment needed:

Report any evaluative results:

Check source(s) of funding: [] local district, [] state [] federal, [] private

List your program using the OEA ARIS code.

Table with columns: Code DESCRIPTOR title, Code NUMBER 4 or 5 digit, Grade level LETTER, Methodology LETTER, Region LETTER, Date entered. Includes instruction: Use separate card form for each entry.

ARIS

OHIO EDUCATION ASSOCIATION 225 EAST BROAD STREET COLUMBUS, OHIO 43215 PHONE: (614) 228-4526

R I S SEARCHING PROCESS

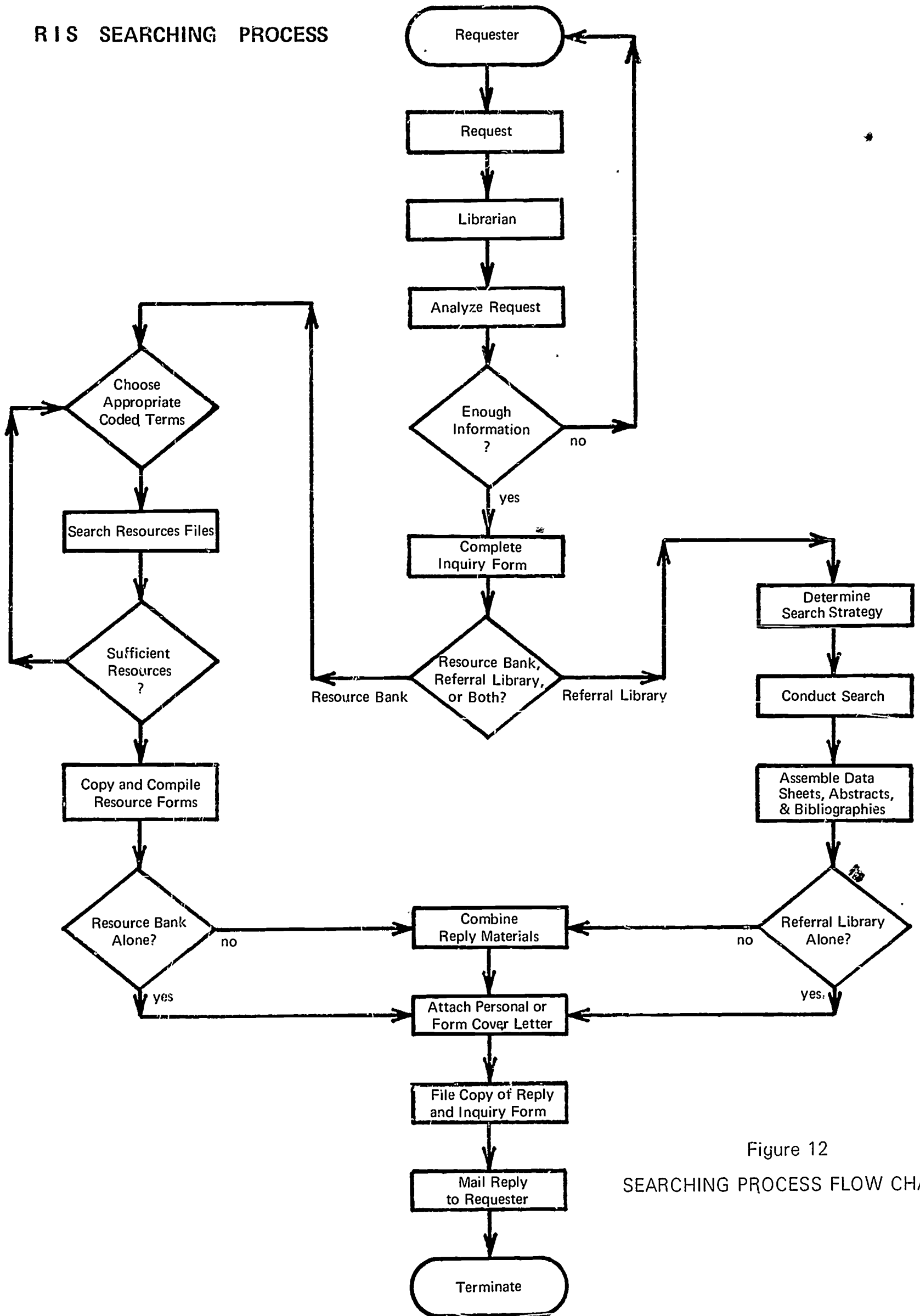


Figure 12
SEARCHING PROCESS FLOW CHART

3.

Installation

Certainly one criterion worthy of consideration in making judgments about a development activity or its resulting product would be that of, "Is it being used?" In terms of an information system, this is interpreted as, "Has interest been shown in acquiring and operating the information system?" Interest in acquiring and operating the system might naturally evolve as a result of the system's use.

MOREL's goal was to develop and install an information system in the region. Evidence of interest in acquiring and operating such an information system is illustrated by an operational installation with the Ohio Education Association (OEA). Their system, Association Referral Information Service (ARIS), is intended to serve the entire state of Ohio. Its operation utilizes the Access 60 system described in Chapter 2 and, with the assistance of MOREL, was developed as an alternative to the McBee System. Utilizing their field staff, the OEA is able to identify exemplary people and programs throughout the state, obtaining essential information resulting in quality resources for requesters of information. This is augmented with materials from their central library.

The ASSIST Center, a Wayne County (Michigan) Title III project, provides information on people, programs and printed materials. In the early stages of development, MOREL and ASSIST sought to cooperate in matters of classification and retrieval systems to avoid duplication and facilitate common access to both systems. Since these early cooperative activities, MOREL has transferred to ASSIST selected components of the Resource Bank and Referral Library. Further cooperative efforts are under way involving the State Department of Education Title III office to effect a broadening of the present Wayne County ASSIST Center Program into a state information system.

To our knowledge, this is the first attempt to link requesters of information with exemplary people and programs as well as printed references on a regional basis. These two examples illustrate the regional nature and the possibilities offered for the establishment of an effective network of information services. Mutual cooperation among existing information systems to effect a standardization of classification schemes compatible with various retrieval systems will allow for common access to virtually unlimited quantities of educational information.

For further information on the activities of the installations, contact:

Michigan-Ohio Regional Educational Laboratory

3750 Woodward Avenue
Detroit, Michigan 48201
(313) 833-1320

Charles J. Kromer
Coordinator, Information Services

Association Referral Information Service

Ohio Education Association
225 East Broad Street
Columbus, Ohio 43215
(614) 228-4526

Byron Marlowe
Coordinator, Information Services

ASSIST Center

33030 Van Born
Wayne, Michigan 48184
(313) 729-1770

Dr. Sanford Glovinsky
Assistant Director, Information Services

4.

Administration of the System

In giving consideration to any venture, concern for certain administrative details is always in order. To round out the description of the MOREL Information System operation, this chapter discusses areas of staffing, facilities, costs, timetable, and evaluation. While the intent is to provide complete and comprehensive coverage of these items, the particular circumstances of any potential installation might alter the figures markedly.

Staffing

In undertaking the operation of an information system, it is critical that this responsibility be placed in the hands of a qualified coordinator. Since this field is relatively new, one may look to areas such as research and development activities, library services, or business and industry for such people. One cannot over stress the importance of this position as it is essential to the continued success of the venture.

The Library component of the system requires a qualified librarian capable of setting up the necessary procedures and assisting with the handling of requests. A full-time clerk or clerk-secretary is essential from the start of the library.

Information specialists are needed to assist with the identification, acquiring, and retrieving of exemplary people and programs. When not occupied with these tasks, the information specialists will work on servicing the requests for information. Information specialists are professionals, many come from backgrounds in libraries, communication skills, and related information work. To facilitate these efforts, a clerk or clerk-secretary should be available to handle the more routine activities of form mailing, typing, copying, and correspondence.

To summarize, it would seem that the minimum staff requirements would involve a coordinator, librarian, information specialist, and two clerks or clerk-secretaries. Again, specific situations may provide opportunities to utilize the services or free time of some existing employees. However, to give some idea of cost, the list below illustrates the ranges as we see them existing in our geographic area.

Coordinator of Information Services	\$12,000 - 20,000
Librarian	\$ 6,500 - 13,000
Information Specialists	\$ 6,500 - 13,000
Clerks	\$ 4,000 - 6,000
Clerk-secretaries	\$ 5,000 - 8,000

Facilities

The major concern regarding facilities is to locate all components of the information system in close proximity to one another and to the people who will be involved in its operation. Of special importance is access to a copying machine. The library will require the largest area and should provide a minimum of 1,000 sq. ft. for shelving and reference work.

In addition, an office-workroom combination is needed to handle the ordering and processing of materials. Space to house the files and retrieval equipment for the exemplary people and programs should be adjacent to the library. In addition, office and clerk-secretarial space is required. The combined requirements for the total Information System including the library should be 1500 sq. ft. minimum.

Costs

In order to determine costs, it is important to know the type of equipment and materials required to perform the task. While a simple listing will not in itself detail costs, it will provide an idea of the requirements of the system and the opportunity to estimate a range of costs for its operation. To facilitate this, a list of major items is given below:

Library

- Library Shelving (6 ft. high, 40 ft. long)
- Reference Tables and Chairs (18 seats)
- Library Desk (1)
- Library Clerk Desk (1)
- Library Clerk Typewriter (1)
- File Cabinets, 4-drawer legal (2)
- File Cabinets, 4-drawer letter (6)
- Card Catalog Stand
- Dictionary Stand
- Periodical Shelving (60 periodicals)
- Reference Collection

Resource Bank

Retrieval Equipment (McBee or Access)
4 Drawer Legal Files (4)
Information Specialist Desk
Clerk Desk
Clerk Typewriter

Miscellaneous

Paper
Forms
Postage & Telephone
Copying costs

No dollar figures are given here due to the available range in quality of equipment and materials. Reference has already been made to the McBee and Access 60 costs and a detailing of the reference collection can be found in Appendix E.

Timetable

This aspect of an Information System will have direct bearing on the success of the undertaking. It is suggested that time and money be spent to visit existing locations to view their approach to the question of staff, facilities and costs. Such visits provide an opportunity to observe the progression of an Information System from its initial installation stages to its present operational status, and to obtain first hand information as to cost projections. Visits to other, more specialized information services such as Project RISE, IDEA, ERIC, etc. will allow for a comparison of the benefits of the MOREL System. It is significant to repeat at this point that the MOREL Information System is designed to link people and programs as well as printed material, and the other Information Systems identified are concerned primarily with printed materials. Thus the need for comparison of efforts, costs, and resultant outcomes.

Evaluation

It is inevitable that the subject of evaluation eventually — and properly — enters the discussion of most educational practices. One must remind himself of the goals or objectives of the MOREL Information System to provide a framework for the evaluation of the system. Since it was stated in Chapter 2 that "linking of people, programs, and printed materials to interested educators" was the goal of the system, it would seem that some evidence should be provided that such was the case. Forthcoming evidence should show that the "linking" was beneficial to the requestor in some way. To state it another way, we should have evidence of relevant referrals to requestors of information.

The question of relevance brings to mind the concern for a method of measuring the degree of relevance as viewed by both the servicer and user of the system. It would seem essential that the servicer of the system should have clearly in his mind the broad goals of the user of his system, in terms of the system's objectives, and should provide people, programs and materials that address these "goals". In other words, the services should provide relevant information to the user.

If the assumption described above is followed, it would be in order to devise an instrument to measure the relevance of the information as viewed by the servicer, measure the relevance of the information as viewed by the user, and to correlate these two to determine the degree of relevance that exists through the operation and utilization of the Information System.

Further information and discussion may be found in the companion publication, *Installation & Evaluation of the Regional Information System*.

5.

The Evolution of a Regional Information System

In 1966, the Michigan-Ohio Regional Educational Laboratory sought to identify the most pressing issues or needs facing those concerned with education in the two-state region. Leading public educators, university personnel, and representatives of business and industry were interviewed. Needs, identified by 902 in-depth interviews, were analyzed and grouped into the following categories:

1. The need for an information system that could disseminate innovations and respond quickly to requests from the region for information.
2. The need for consultants in program development, evaluation, research, demonstration, and implementation.
3. The need for knowledge about how change can take place effectively for the improvement of education.
4. The need for improved education of educational personnel, both preservice and inservice, and especially during the critical period immediately following preservice education, to include:
 - a. sub-professionals
 - b. teachers
 - c. administrators
 - d. other staff roles (specialists and generalists)
5. The need for research and development efforts and projects which are aimed at helping children and youth who have learning difficulties to achieve more meaning, purpose, and success in their learning activities. (This item includes both diagnosis and development.)
6. In a somewhat different sense, the need to meet the above needs in a way that (a) fosters a cooperative relationship between schools and colleges, and (b) supports the bringing together of diverse resources that might contribute effectively.

MOREL developed the RIS in accordance with the objective of developing acceptable alternatives to present educational practice. Educators have long clamored for current and relevant information about projects and programs being tried and utilized in countless schools throughout the nation. The dilemma of today's educator is how to obtain relevant information from the vast and ever-increasing stores of knowledge. How can one obtain information about programs and projects, and communicate with the administrators, teachers, students, and community residents who were

so vitally involved in the programs? A "one-stop" information system appeared to be an answer. The need for human and institutional resources in addition to printed material was evident.

In order to more fully understand the concept of the Regional Information System, it may be helpful to review information theory and present methods of obtaining information.

The Evolution of Information Services

Information transfer has long been of concern to mankind. As far in the past as ancient China, man carried forth the practice of librarianship. Toward the end of the nineteenth century, the scientific method was first applied to documentation. These early beginnings were concentrated in the fields of science and related technology in order to gain access to reports, research findings, and current publications. As rapid advances in technology and business became a reality, the critical need for systematic access to information became more acute. Specialized information centers were created to handle the expanded needs.

Business and industry were not alone in their desire for access to information. Education, by its very nature, was an organized activity designed partly to transfer knowledge to individuals. However, the educators responsible for carrying on our educational system had need for systematized access to information relating to the various aspects of the educational process. A review of the current status of information services highlights this need.

Informal Practices

A generally recognized activity of educators in need of current information is consultation. State departments of education provide individual consultants in many subject and administrative areas to assist local educators. County and intermediate districts have been established to bring similar services still closer to the local educational environment. Colleges and universities work directly with school systems to provide opportunities for practical application of concepts generated through research efforts. Professional educational associations have organized many of their activities to bring educators together so that exchange of ideas can take place. Some of the larger school districts have initiated information programs to improve educational practice. Individual districts seek the use of federal and state

funds to establish and operate centers for the purpose of organizing, classifying, and retrieving relevant educational information. Meetings and conferences provide interaction and shared information and experiences.

Attempts at Formalization

Recently many of the above-mentioned activities have been synthesized into operational networks. Examples of these networks would include the Educational Resources Information Center (ERIC), Committee on National Library, Information Systems (CONLIS), Interuniversity Communication Council (EDUCOM), Committee on Scientific and Technical Information (COSATI), Science Information Exchange (SIE), School Research Information Service (SRIS), and Educational Products Information Exchange (EPIE). Centers providing educational information services on a localized basis include:

1. RISE — Research and Information Services for Education
443 South Gulph Road
King of Prussia, Pennsylvania 19406
2. IDEAL — Identification, Dissemination, Evaluation, and Adaptation of Laboratory Studies
College of Education, University of Florida
Gainesville, Florida 32601
3. ASSIST — Activities to Stimulate and Support Innovation in Schools Today
33030 Van Born Road
Wayne, Michigan 48184
4. STADIS — Statewide Dissemination Service (a pilot study for the State Department of Education)
405 Michigan National Tower
Lansing, Michigan 48933

These networks and centers, in conjunction with county, city, and local school library systems, seem to represent the best efforts at formalizing information services for educators thus far.

It is apparent that a concept of significance to today's educators is to have access to desired information. Gaining access to information will facilitate decision-making, effecting the adoption of improved educational practices.

A Federal Commitment

One recent venture into the area of facilitating change is the regional educational laboratory network. Under Title IV of the Elementary and Secondary Education Act of 1965 (ESEA), provisions were made for the establishment and operation of 20 educational laboratories, to be regional in nature. The laboratory concept was based on the premise that various areas of the nation are involved with pressing educational problems, many of which are unique to the region. An example is the bilingual problem of the Mexican-American in the Southwest. A program developed in that area might also be of value to educators in New York City in relation to the educational problems of the city's Latin-American population. Thus, the concept of a laboratory

working on problems unique to its region but sharing ideas and programs with the rest of the country was developed.

A Theoretical Basis

The actual development activity of the RIS centered around the utilization of significant components of existing information transfer models. The resulting *MOREL Information System Model* is presented at the end of this chapter.

The *Murdock-Liston Model* utilizes the sender-channel-receiver concept. Figure 13 shows this in detail. The essence of this model illustrates that information can be transferred face-to-face; through primary recorded media such as handbooks, monographs, etc.; through archival channels such as document depots, special libraries, etc.; through secondary recorded media such as abstracts, indexes, etc.; and through information centers where the system attempts to apply all transfer channels to answer user requests.

A second model, the *Frederick Goodman Model* relating specifically to the field of education, is shown in Figure 14. This model illustrates the continuous cycle of information — showing the relationship of the source of information, through the various types of information, to the users where decision-making occurs. These users, in turn, often serve as sources of information, thus illustrating the cyclical nature of the model. This model was used by MOREL as a basis for beginning its development of the Regional Information System. Since the model includes information types other than printed data, we see the beginnings of the one-stop information center where people, projects, and programs are emphasized in addition to printed materials.

The following seven criteria served as focal points to provide a rationale for the operation of the RIS.

1. The regional concept will be defined for our purposes as serving an area greater than one school district and encompassing up to and including a total state or small grouping of states.
2. High priority is given to the inclusion of referrals to people, programs, projects, and printed materials as resources for a requester of information. These types of resources expand upon the traditional concepts of information services, which largely restricted their activity to the printed page. Judgments about the quality of individual resources when discussing people, projects, and programs is omitted here. The assumption is made that the same kinds of criteria such as expert opinion, conferences, state, college, county and local educators that presently function on an informal basis will continue to apply.
3. Providing a variety of alternatives within each type is central to the RIS design. Thus, the requester can anticipate receiving a variety of resources, concerning people, or programs, or possibly printed information, allowing him to choose those most appropriate to his interest and level of involvement. No judgments are made here as to the use of the information in terms of decision-making, instruc-

tional improvement or effecting change. We assume the information is being requested for some meaningful purpose by the user.

4. The system should facilitate open communications, providing for interpretation of the request in order to allow for the most efficient operation in terms of the time devoted by the user, resource and system.
5. The system should make provision for internal reference service for the organization and its programs.
6. Existing information systems are important referrals in their own right. Therefore, the RIS should support and cooperate with these systems.
7. It is reasonable to expect that it will be difficult to find appropriate resources in response to certain requests; hence, these information voids are recognized as regional needs.

The MOREL Regional Information System was developed with these guidelines and it comprises the Referral phase of the larger model. Two additional phases — Current Awareness (Selected Dissemination of Information) and Information Analysis and Reformulation (State of the Art Reports, etc.) — are seen as a part of the Regional Information System. However, the last two have not been developed to date. Each phase can function separately and the Referral phase described in Chapter 2 clearly shows this independence. The *MOREL Information System Model* is shown in Figure 15.

Figure 13

MURDOCK-LISTON MODEL OF INFORMATION TRANSFER

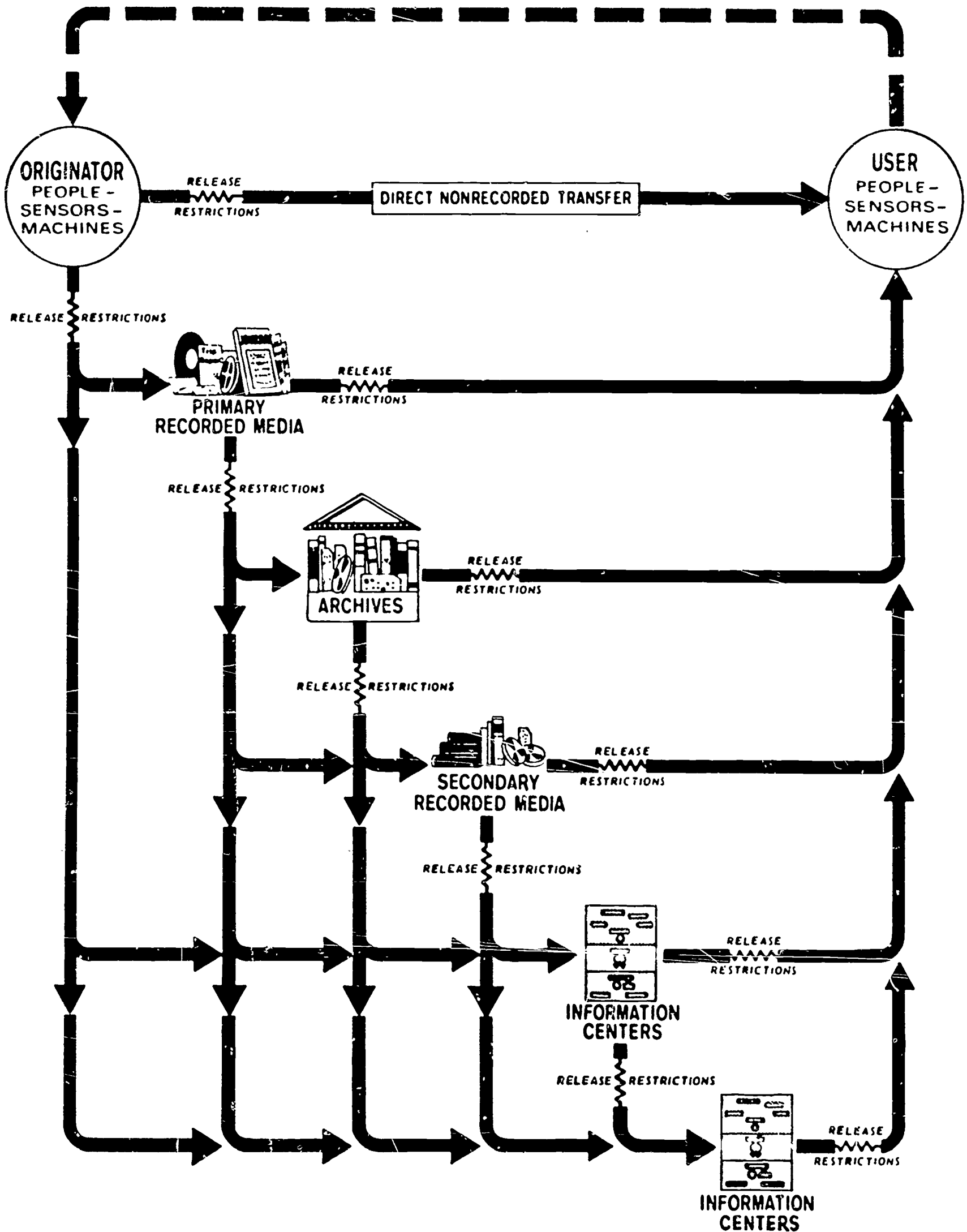
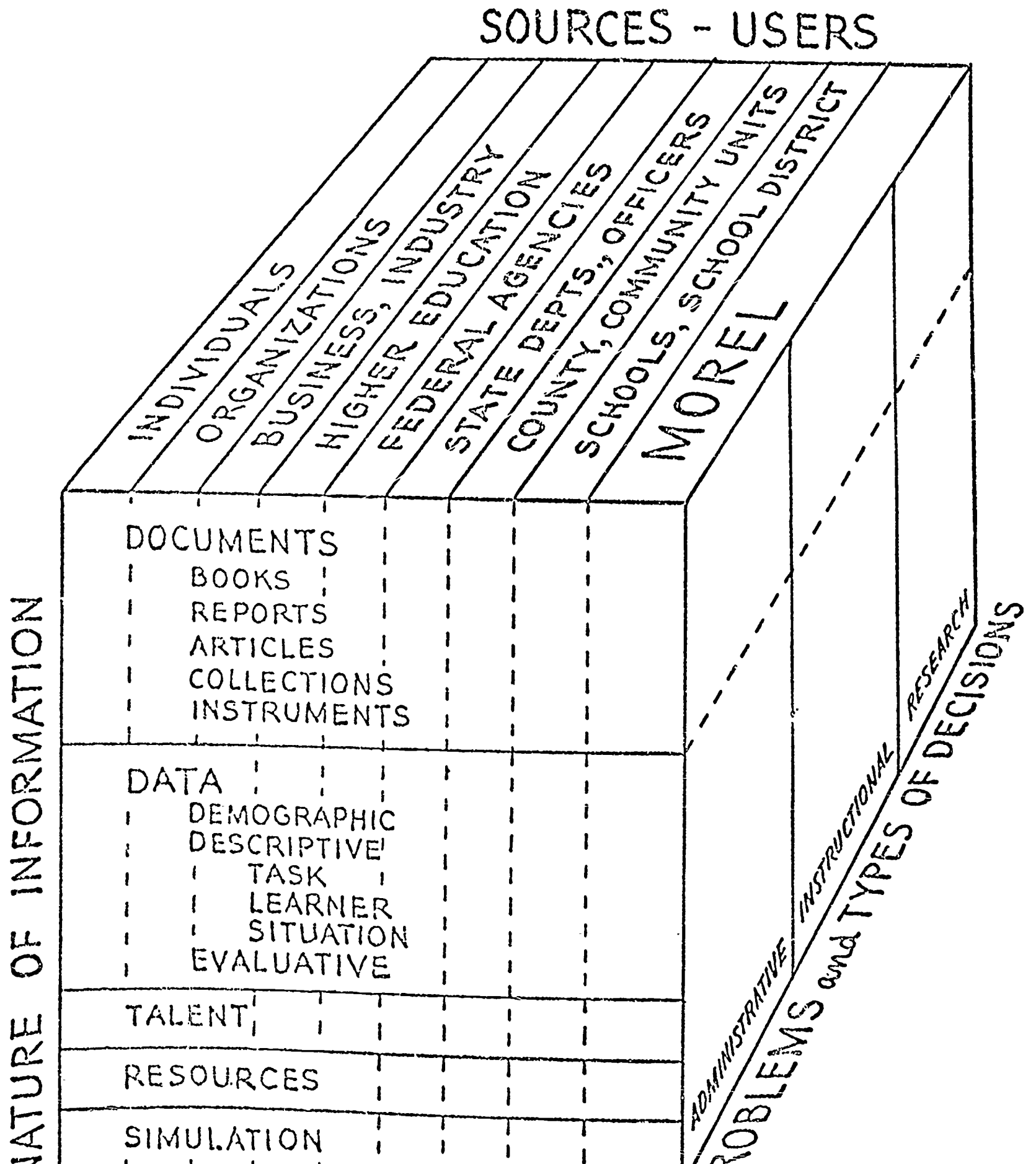


Figure 14

FREDERICK GOODMAN MODEL OF INFORMATION TRANSFER



A REGIONAL INFORMATION SYSTEM

REFERRAL
TO INFORMATION MEDIA,
HUMAN AND INSTITUTIONAL RESOURCES

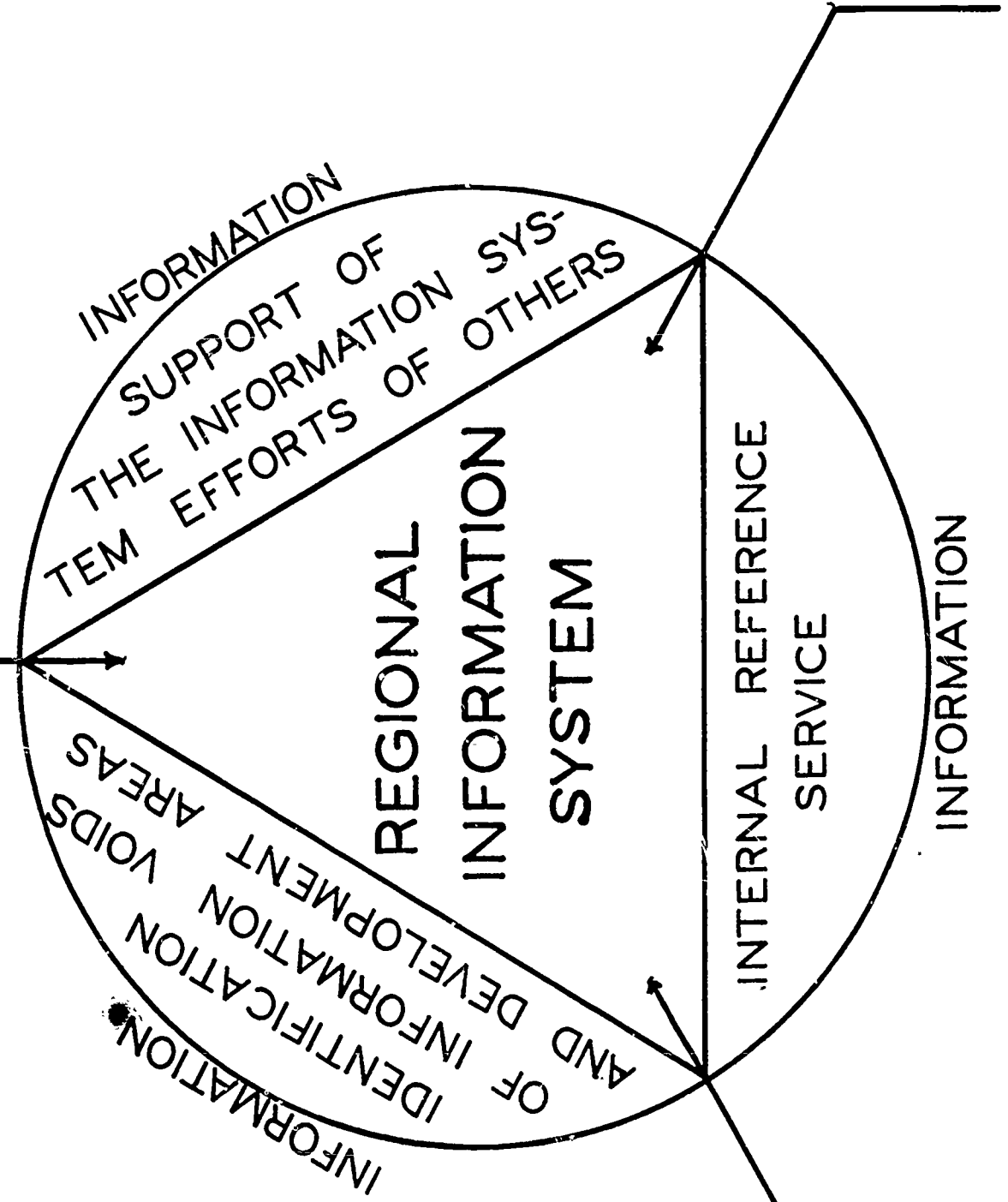


Figure 15
MOREL REGIONAL INFORMATION SYSTEM MODEL

CURRENT AWARENESS
OF EDUCATIONAL LITERATURE
AND RESOURCES

ANALYSIS & REFORMULATION
OF LOCAL MATERIALS

RESOURCE BANK CODING SCHEME

RESOURCE BANK CODE

Please use this Code as a guide to making appropriate entries on the Personnel or Project and Agency data form. Questions which call for use of the Code are marked with an asterisk (*) and are printed in bold face type.

A. POSITION

- 1 Superintendent
- 3 Deputy, Associate, or Assistant Superintendent
- 5 Supervisor, Director
- 7 High School Principal
- 9 Junior High or Middle School Principal
- 11 Elementary School Principal
- 12 Other Professional Personnel—Elementary
- 13 Other Professional Personnel—Junior High or Middle Grades
- 14 Other Professional Personnel—Secondary
- 15 Intermediate (County) District Superintendent
- 17 Other Intermediate (County) Professional Personnel
- 19 College or university President
- 21 Dean of a College of Education
- 23 Professor of Education
- 25 Other College or University Personnel

B. TYPE OF ORGANIZATION

- 1 Public School—Local
- 2 Public School—Intermediate
- 3 Public School—State
- 4 Non-public School
- 5 College or University
- 6 Other Agency (non-profit)
- 7 Other Agency (profit)
- 8 Private Consultant
- 9 Other (specify on data form)

C. METHODOLOGY UTILIZED BY RESOURCE

- 1 Administrator
- 2 Cooperative Planning
- 3 Demonstrator
- 4 Designer (program)
- 5 Developer (program)
- 6 Disseminator
- 7 Discussion Leader
- 8 Evaluator
- 9 Group Process Specialist
- 10 Interviewer
- 11 Lecturer
- 12 Media Specialist
- 13 Observer
- 14 Recorder
- 15 Researcher
- 16 Workshop Method
- 17 Writer (author)
- 18 Writer (project)
- 19 Other (please indicate on data form)

- 7 ART
- 72 Architecture
- 73 Sculpture
- 74 Arts and crafts
- 743 Architectural drafting
- 744 Mechanical drawing
- 75 Painting
- 77 Photography
- 78 Music

PHYSICAL EDUCATION

- 79 Health Education
- 791 Gymnastics
- 792 Games
- 793 Physical Fitness
- 794 Dance
- 795 Sports and athletics
- 796 Sex Education
- 797 Camping
- 799

SOCIAL STUDIES

- 8 Sociology
- 801 Urban Problems
- 802 Social Problems
- 803 Community life (citizenship)
- 81 Community resources
- 811 International relation
- 827 Non-Western cultures
- 828 Civics
- 83 Economics
- 84 Law
- 85 Communications
- 86 Commerce
- 87 Transportation
- 88 Geography
- 89 History (general)
- 9 Negro History
- 901 World History
- 91 Ancient history
- 93 Anthropology
- 931 European
- 94 Russian History
- 95 Asian History
- 951 Chinese History
- 96 African History
- 97 North American History
- 971 Indians of North America
- 973 U. S. History
- 9771 Ohio History
- 9774 Michigan History
- 98 Latin American History

--- Other (please indicate on data form)

- APPLIED SCIENCE
- 121 Nursing education
- 613 Hygiene
- 6131 Dental Health
- 614 Safety education
- 6141 Driver education
- 616 Alcohol & narcotics
- 617 Home and family living

VOCATIONAL EDUCATION

- 62 Machine shop & home mechanics
- 621 Woodworking
- 622 Welding
- 623 Electricity
- 6231 Radio mechanics
- 624 Metal working
- 625 Graphic art (printing)
- 626 Watchmaking
- 627 Automotive mechanics
- 628 Aviation mechanics & training
- 63 Agriculture
- 632 Conservation of natural resources
- 635 Gardening
- 64 Home economics
- 641 Nutrition
- 645 Housing
- 646 Clothing

BUSINESS EDUCATION

- 65 Office practice (clerical & business machines)
- 651 Typing
- 652 Short-hand
- 653 Business law
- 654 Business English
- 655 Business mathematics
- 656 Bookkeeping
- 657 Business organization and management
- 658 Distributive education
- 659 Advertising
- 6591 Salesmanship
- 6592 Retailing & marketing

GUIDANCE

- 67 Vocational guidance
- 671
- 69 SPECIAL EDUCATION
- 691 Speech correction
- 692 Blind
- 693 Deaf
- 694 Physically handicapped
- 695 Mentally retarded
- 697 Delinquent
- 698 Foreign born

F. FUNDING

- 1 Local Funds (District)
- 2 Local Funds (Institution)
- 3 State Funds
- 4 Civil Rights Act
- 5 Economic Opportunity Act
- 6 Elementary and Secondary Education Act - Title I
- 7 Elementary and Secondary Education Act - Title III
- 8 Elementary and Secondary Education Act - Other
- 9 Higher Education Act
- 10 National Defense Education Act
- 11 Other Federal Funds (Associated with Department of Health, Education, and Welfare)
- 12 Other Federal Funds (not associated with HEW)
- 13 Private Foundations
- 14 Private Business
- 15 Other (please indicate on data form)

D. SPECIAL INTEREST

100	Ability (research, grouping, evaluation, tests)	126	Gifted Students
101	Academically Talented	32	Group Work
102	Accreditation	33	Grouping
	Achievement (research, grouping, evaluation, tests)	34	Guidance
103	Administration		Handicapped Students
104	Adolescence (research, psychology, teaching)	127	Honors Program
105	Advanced Placement Programs	35	Human Relations
106	Aptitude (research, tests, grouping, evaluation)	129	Humanism
107	Articulation	36	Independent Study
108	Attitudes (research, tests)	37	Individual Differences
109	Automation	39	Information Services
	Behavior (evaluation, research, tests and scales)	133	Innovations in Education
110	Block Time Programs	38	In-Service Teacher Education
111	Brain Damaged Children	134	Inquiry Method
112	Certification	40	Instructional Materials
113	Child Development (research, teaching, psychology)	41	Instructional Materials Centers
114	Cognition	43	Instructional Technology
115	Communication (interpersonal)	42	Instructional Television
116	Communications (research, theory)	44	Interaction Analysis
117	Community Relations	45	Interdisciplinary Programs
118	Compensatory Education	135	Intergroup Relations (integration, segregation)
119	Computer Assisted Instruction	136	International Education
120	Content Analysis	46	Language Laboratories
121	Continuing Education	137	Leadership Training
122	Contract Negotiations	48	Mass Media
123	Cooperative Planning	52	Measurement, Student Performance
124	Counseling	138	Mentally Handicapped
125	Creativity	49	Microteaching
126	Culturally Disadvantaged	51	Migrant Education
127	Curriculum Development (elementary)	50	Models, Educational
128	Curriculum Development (secondary)	139	Moral Education
129	Curriculum Development (secondary)	140	Motivation
130	Cybernetics	53	Non-graded Curriculum
131	Data Bank	141	Optional Attendance
132	Data Processing	142	Organization (Theory)
133	Delinquency	54	Orientation
134	Derivation Techniques	143	Outdoor Education
135	Dissemination of Information	56	Perception
136	Documentation	57	Personnel
137	Dropouts	58	Physical Plant
138	Early Childhood Education	55	Pre-School
139	Economic Factors	59	Primary Unit
140	Educational Television	144	Problem Children
141	Elementary Education	145	Professionalism
142	Emotions and Learning	146	Programmed Instruction
143	Enrichment	60	Psychological Factors
144	Evaluation	61	Pupil Personnel Services
145	Exceptional Children	62	Racial Integration
146	Extended School Year	64	Religion, Relation to Public Education
147	Extra-Curricular Activities	63	Remedial Program
148	Federal Programs	65	Research (action)
149	Feedback	66	Research (carrying out)
150	Field Trips	67	Research (design)
151	Finance	68	Research (findings)
152	Gaming	69	Resource Bank
153	General Education	147	Retardation
154		148	Role (behavior, theory, analysis)

(Continued on following page)

149	Safety Education	159	Student Teaching
150	Scheduling	160	Student Exchange
151	School-Community Relations	161	Student Government
152	School Law	162	Systems Analysis (systems approach in education)
153	School-within-a-school	163	Teachers' Aides (para-professionals)
154	Scientific Method	79	Team Teaching
155	Secondary Education	164	Television and Education
156	Self-concept	165	Tests and Scales
157	Self-Renewal	166	Theories of Curriculum
158	Sensitivity Training	167	Theories of Instruction
159	Sex Education	168	Theories of Learning
160	Shared Learning	169	Theories of Supervision
161	Simulated Social Skill Training	170	Theories of Teaching
162	Simulation	171	Underachievement
163	Slow learning students	172	Urban Education
164	Sociological Factors	173	Values
165	Sociological Factors	174	Work-study programs
166	Staff Utilization		
167	Structure of Knowledge		
168	Student Behavior		

E. SUBJECT SPECIALIZATION

1	PHILOSOPHY	514	Trigonometry
150	Psychology	517	Calculus
2	RELIGION	519	Experimental Programs
3	LITERATURE	52	SCIENCE
31	American literature	521	Astronomy
32	English literature	522	Advanced Courses
4	General language	523	Experimental Courses
42	LANGUAGE ARTS	53	Special Materials
421	Reading	531	Physics
4211	Initial Teaching Alphabet	532	Harvard Project Physics
4212	Programmed Reading	533	Physical Science Study Committee
4213	Words in Color	534	Advanced Courses
4214	Experimental Programs--Elementary	535	Experimental Courses
4215	Experimental Programs--Junior High	536	Special Materials
4216	Experimental Programs--High School	54	Physical Science
422	Spelling	541	Chemistry
423	Handwriting	542	Chemical Bond Approach
424	Speech	543	C.H.E.M. Study
4241	Drama	544	Advanced Courses
4242	Auditorium	545	Experimental Courses
425	Poetry	55	Special Materials
426	English language composition	551	Geology
4261	Journalism	552	Weather
427	Grammar	553	Advanced Courses
428	Linguistics	554	Experimental Courses
429	Work-study skills	56	Special Materials
43	German	561	Paleontology
44	French	562	Advanced Courses
45	Italian	563	Experimental Courses
46	Spanish	57	Special Materials
47	Latin	571	Biology
48	Greek	572	Physiology
49	Other languages	573	BSCS--Biological Science
49	Hebrew	574	Curriculum Study
51	MATHEMATICS	575	Advanced Courses
515	Statistics	576	Experimental Courses
516	Probability	58	Special Materials
517	Algebra	581	Sex Education
518	Linear Algebra	582	Botany
519	Non-College bound math	583	Advanced Courses
520	Geometry	59	Experimental Courses
521		591	Special Materials
522		592	Advanced Courses
523		593	Experimental Courses

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ASSOCIATION
REFERRAL
INFORMATION
SERVICE

ASSOCIATION REFERRAL INFORMATION SERVICE

The OEA Association Referral Information Service assists educators by identifying consultants, programs and printed resources for use in improving instruction and upgrading the skills of school personnel. ARIS consists of an Information Center composed of consultants and innovative or exemplary programs, and a Resource Center consisting of literature sources for the use of educators. Upon receipt of a request the Information Center will identify the appropriate personnel and programs and the Resource Center will identify library sources.

OEA ARIS makes its services available to all educators free of charge.

INSTRUCTIONS

ARIS is designed to store and retrieve information by code number and letter. If your request for information should cover a number of code references, then you would use each code reference.

Inquiry Forms are available to facilitate rapid retrieval of information from the center. Please use the Inquiry Form or request your information in the same format as the Inquiry Form.

1. Select the topic or topics appropriate for your question(s).
2. Using the Inquiry Form, request the information by both the CODE TITLE and NUMBER for subject, and the LETTER code for grade, method, and region.

Business math.	1141	F	None	A
Code DESCRIPTOR title	Code NUMBER	Grade level LETTER	Methodology LETTER	Region LETTER

(This requests the program and personnel listings of business mathematics at the high school level within Ohio without regard to instructional methodology.)

3. Mail your request to: OEA ARIS
Ohio Education Association
225 East Broad Street
Columbus, Ohio 43215

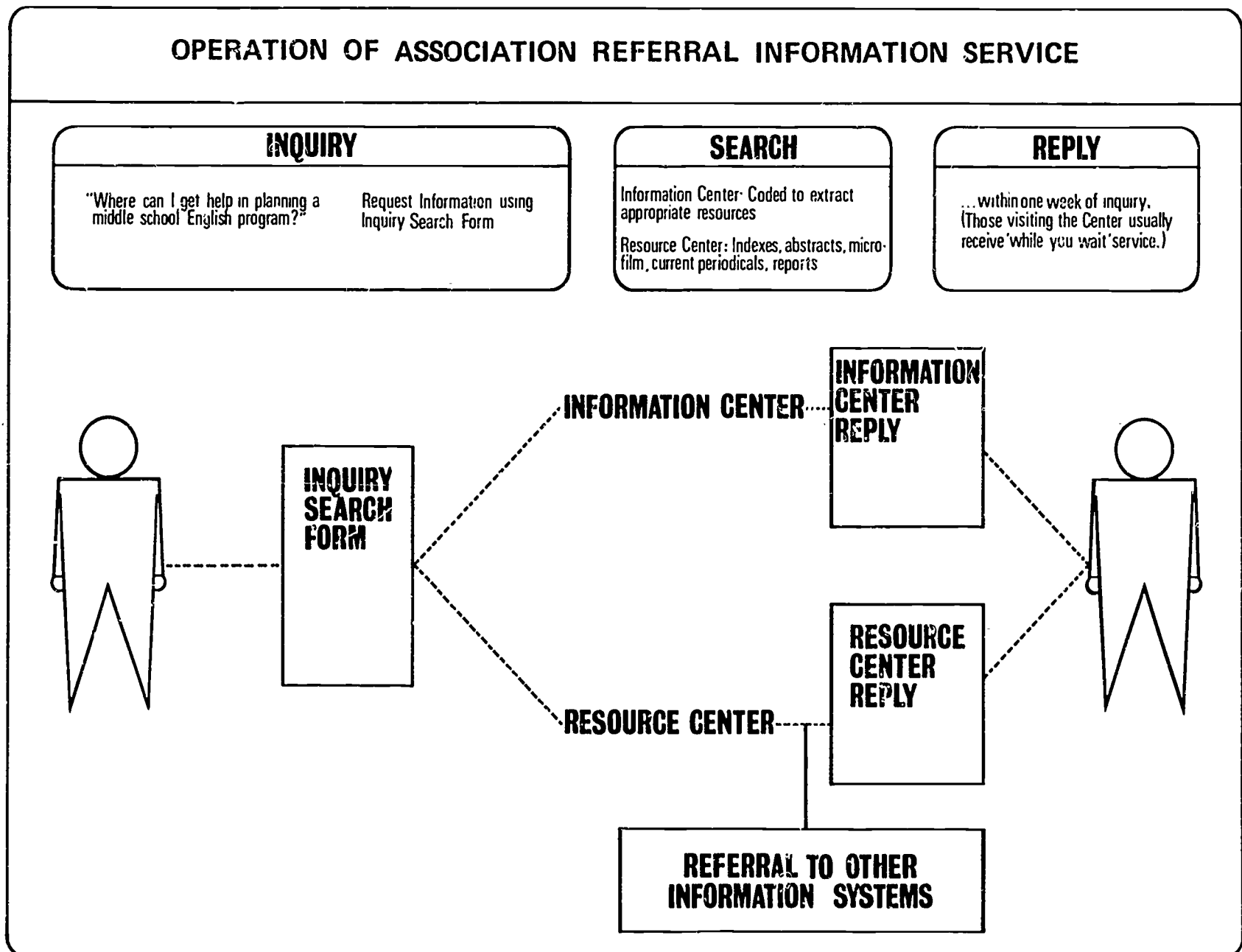


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MATHEMATICS AND NATURAL SCIENCES
Mathematics, General Science, Astronomy, Biology, Chemistry, Earth Science, Physics

MATHEMATICS

1110	<u>Arithmetic</u>	1230	<u>Physical Sciences</u>
1111	Addition, subtraction	1231	Chemistry
1112	Decimal, fractions	1232	Physics
1113	Multiplication, division		
1114	"New" mathematics	1240	<u>Ecology</u>
11141	Numeration		
11142	Set theory	1250	<u>Special Instruction</u>
1115	Ratios, proportions, percent	1251	Science Fairs
1116	Theory of numbers	1258	Refresher Science
1118	Refresher arithmetic	1259	Remedial Science
1119	Remedial arithmetic		
		1270	<u>Advanced Instruction</u>
1120	<u>General Mathematics</u>		
1121	Non-coincide bound	1280	<u>Field Trips</u>
1122	Theory of equations		
1128	Refresher mathematics	1285	<u>Laboratory Instruction</u>
1129	Remedial mathematics		
		1290	<u>Experimental Concepts/Courses</u>
1130	<u>Systems of Measurement</u>	1291	AAAS (process approach)
1131	Fluids	1292	Elementary School Science Project
1132	Metric	12921	California
1133	Money	12922	Illinois
1134	Non-metric	12923	Utah
1135	Time	1293	Elementary Science Project
		1294	Elementary Science Study
1140	<u>Specialized Mathematics</u>	1185	Minnesota Math and Science Teaching Project
1141	Business math	1295	Science Curriculum Improvement Study
1142	Computer math	1296	School Science Curriculum Project
1143	Consumer math	1297	Secondary School Science Project
1144	Shop math		
1150	<u>Algebra</u>		ASTRONOMY
1151	College	1310	<u>General Instruction</u>
1152	Introductory course	1311	Calendars, calendar skills
1153	Linear	1312	Celestial systems
1154	Matrix	1313	Cosmology
		1314	Meteorology
1160	<u>Geometry, Trigonometry, Calculus</u>	1315	Navigation
1161	Analytic geometry	1316	Telescopes, observatories
1162	Calculus	1317	Surveying, mapping
1163	Exponential, periodic functions	1318	Refresher course
1164	Plane geometry		
1165	Solid geometry	1370	<u>Advanced Instruction</u>
1170	<u>Advanced Instruction</u>	1380	<u>Field Trips or Observatories</u>
1171	Mathematical models		
1172	Probability	1390	<u>Experimental Concepts/Courses</u>
1173	Statistics	1391	Elementary School Science Project
11731	Non-parametric		(also earth science)
11732	Parametric		
1180	<u>Experimental Concepts/Courses-Elementary</u>		BIOLOGY - BOTANY, ZOOLOGY
1181	Experimental teaching of mathematics (K-6)		
1182	Greater Cleveland Math Programs (K-12)		
		1410	<u>General Instruction</u>
1184	Madison Math Project (K-9)	1411	Animal life
1185	Minnesota Math and Science Teaching Project (K-6)	1412	Human anatomy, processes
1186	School Math Study Group (K-12)	1413	Marine biology
1187	So. Ill. Univ.-Comprehensive School Math Project (K-12)	1414	Microbiology
1188	Univ. Ill. Arithmetic Project	2844	Sex Education
		1418	Refresher course
		1419	Remedial course
1190	<u>Experimental Concepts/Courses-Secondary</u>		
1191	Ball State Teachers College Experimental Program (7-12)	1420	<u>Botany</u>
1192	Boston College Math Institute	1421	Ecology, genetics
1193	Commission on Math, (CEEB) (9-12)	1422	Maturation
1194	National Council, Teachers, Math (7-12)	1423	Pathology
1195	School Math Curriculum Improvement Study (7-12)	1424	Physiology
1196	Univ. Ill. Committee on School Mathematics (9-12)	1425	Reproduction
1197	Univ. Md. Math Project (7-8)	1426	Taxonomy
		1430	<u>Zoology</u>
GENERAL SCIENCE		1431	Ecology, genetics
		1432	Maturation
1210	<u>Biological Sciences</u>	1433	Pathology
1211	Animals, plants	1434	Physiology
1212	Biology	1435	Preservation of specimens
1213	Zoology	1436	Reproduction
		1437	Taxonomy
1220	<u>Earth Sciences</u>		
1221	Astronomy		
1222	Geography		
1223	Geology		

1470 Advanced Instruction
 1471 Bacteriology
 1472 Biochemistry
 1473 Biophysics
 1474 Cytology
 1475 Entomology
 1476 Microbiology
 1477 Molecular biology

1480 Field Trips or Nature Study

1485 Laboratory Instruction

1490 Experimental Concepts/Courses
 1491 Biological Sciences Curriculum Study
 14911 First course
 14912 Second course
 14913 Special materials

CHEMISTRY

1510 General Instruction
 1511 Chemical bonding
 1512 Chemical calculations
 1513 Chemical reactions, equilibriums

1515 Periodic properties
 1518 Refresher course
 1519 Remedial course

1520 General Inorganic

1530 General Organic

1540 Qualitative and Quantitative
 1541 Qualitative analysis
 1542 Quantitative analysis

1550 Physical Chemistry

1570 Advanced Instruction

1580 Field Trips or Demonstrations

1585 Laboratory Instruction

1590 Experimental Concepts/Courses
 1591 Chemical Bond Approach
 1592 Chemical Education Materials Study
 1794 Portland Project

EARTH SCIENCE

1610 General Instruction
 1618 Refresher course
 1619 Remedial course

Astronomy (see 1300)

Geography (see 2400)

1630 Geology
 1631 Economic geology
 1632 Historical geology
 1633 Minerology
 1634 Paleontology
 1635 Petrology, rock identification
 1636 Physiography
 1637 Structural geology

1640 Hydrology, Oceanography

1670 Advanced Instruction

1680 Field Trips

1685 Laboratory Instruction

1690 Experimental Concept/Courses
 1691 Earth Science Curriculum Project
 1391 Elementary School Science Project
 1692 Secondary School Science Project

PHYSICS

1710 General Instruction
 1711 Electricity, magnetism
 1712 Heat
 1713 Light
 1714 Matter
 1715 Mechanics
 1716 Sound
 1717 Wave motion
 1718 Refresher course
 1719 Remedial course

1770 Advanced Instruction
 1771 Atomic, nuclear structure
 1772 Kinetic molecular theory
 1773 Mechanics (forces, motions)
 1774 Nuclear physics
 1775 Thermodynamics

1780 Field Trips or Demonstrations

1785 Laboratory Instruction

1790 Experimental Concepts/Courses
 1791 Harvard Project Physics
 1792 Introductory physical sciences
 1793 Physical Science Study
 1794 Portland Project (also chemistry)

SOCIAL SCIENCES

Introductory Social Studies, Multi-Disciplinary Studies, Economics, Geography, History,
Problems of Democracy—Civics, Psychology, Sociology— Anthropology

INTRODUCTORY SOCIAL STUDIES

2110 Communication Systems
2120 Community Helpers
2130 Development of Nations, Civilization
2131 African
2132 Asian
2133 European
2140 Explorers and Pioneers
2150 Transportation Systems
2160 Socialization
2161 Civic responsibilities
2162 Heroes
2163 Holidays
2164 Home, family
2170 World of Work
2171 Occupational planning
2172 Vocational education

MULTI-DISCIPLINARY STUDIES

2210 Continental
2211 Africa
2212 Asia
2213 Europe
2214 Far East
2215 Middle East
2216 North America
2217 South America
2218 Soviet bloc
2220 Regions of U. S.
2221 Midwest
2222 North Central
2223 Northeast
2224 Northwest
2225 Southeast
2226 Southwest
2230 Man and Society/Culture
2280 Trips, Tours
2290 Experimental Concepts/Culture
2291 Social Science Program
2292 Syracuse Univ. Social Science Project
2293 Univ. Cal. Social Studies (Asian)
2294 Univ. Minn. Project Social Studies

ECONOMICS

2310 American Economics
2311 Consumer economics
2312 Insurance and investments
2313 Labor, labor-management
2314 Land economics, urban planning
2315 Money and banking
2316 Monopoly and anti-trust
2317 Wages and earnings
2318 Refresher course
2319 Remedial course
2320 Economic Theory
2321 Capitalism
2322 Communism
2323 Socialism
2330 Public Finance
2331 Fiscal policy
2332 Monetary policy
2333 International trade
2380 Trips, Tours

2390 Experimental Concepts/Courses
2391 Ohio Council for Economic Education
2392 Univ. Chi. Economic Program

GEOGRAPHY

2410 American Geography
2411 Economics
2412 Political
2413 Population
2414 Atmosphere
2415 Biosphere
2416 Hydrosphere
2417 Lithosphere
2418 Refresher course
2419 Remedial course
2420 Historical Geography
2421 Region (specify)
2426 Time period (specify)
2430 Human Geography
2431 Economic patterns
2432 Political patterns
2433 Population
2434 Migration
2435 Military patterns
2440 Physical Geography
2441 Atmosphere
2442 Biosphere
2443 Hydrosphere
2444 Lithosphere
2450 Mapping
2451 Drawing
2452 Map reading
2453 Symbols
2480 Trips, Tours
2490 Experimental Concepts/Courses
2491 High School Geography Project

HISTORY

2510 North American
2511 Civil war, reconstruction
2512 Colonial period, independence
2513 Current history
2514 Economic history
2515 Expansionism
2516 Regional or state history (specify)
2517 Religious or ethnic (specify)
2518 Refresher course
2519 Remedial course
2520 European (excluding Russia)
2521 England
2522 France
2523 Germany
2524 Other country (specify)
2526 Renaissance, reformation
2527 Rise of nation state
2528 Industrial revolution
2529 19th and 20th century
2530 Russian
2531 Pre-1917
2532 1917-World War II
2533 Post World War II
2540 Latin American
2541 Caribbean
2542 Central American
2543 European exploration
2544 Inter-American relations
2545 Mexico
2546 Pre-Columbian cultures
2547 South American
2548 20th Century

2550 Non-Western History
 2551 African
 2552 Asian and Middle East
 2553 Colonialism
 2554 Far East
 2555 Post-World War II
 2556 Trade

2560 Ancient and World History
 2561 Anti-colonialism
 2562 Christianity
 2563 Industrial Revolution
 2564 Greek philosophy
 2565 Roman empire
 2566 Westernization of Asia
 2567 20th Century

2570 Western Civilization
 2571 Renaissance and reformation
 2572 Rise of nation state
 2573 Roman Empire
 2574 Secularization of society

2580 Trips, Tours

2590 Experimental Concepts/Courses

PROBLEMS OF DEMOCRACY, CIVICS

2610 American Government-Structure
 2611 Federalism
 2612 Separation of powers
 2613 Political socialization
 2614 Sampling and polls
 2615 Public administration
 2616 State (specify)

2620 American Government-Policies
 2621 Civil liberties
 2622 Domestic policy
 2623 Foreign policy
 2628 Refresher civics
 2629 Remedial civics

2630 European Government
 2631 England
 2632 France
 2633 West Germany
 2634 Eastern Europe

2640 Non-Western Political System
 2641 African Sub-Sahara
 2642 Northern Africa
 2643 Asian
 2644 Far East
 2645 Middle East
 2646 Central American
 2647 South American

2650 Political Theory
 2651 In U. S. Constitution
 2652 Normative
 2653 Behavioral

2660 International Relations
 2661 Colonialism-Imperialism
 2662 International Law
 2663 International Organization
 2664 United Nations

2680 Trips, Tours

2690 Experimental Concepts/Courses

PSYCHOLOGY

2710 Developmental and Adjustment
 2711 Adjustment techniques
 2712 Childhood behavior
 2713 Maturation, Concept of self
 2714 Parent-child relations
 2715 Personality theories
 2716 Prejudice
 2717 Social norms
 2718 Refresher course
 2719 Remedial course

2720 Educational
 2721 Emotions and adjustment
 2722 Individual differences
 2723 Learning theory
 2724 Motivation

2780 Trips, Tours

2790 Experimental Concepts/Courses

SOCIOLOGY - ANTHROPOLOGY

2810 Anthropology
 2811 American Indians
 2812 Archeology
 2813 Cultural transmission
 2814 Kinship systems
 2815 Physical anthropology

2820 Community and Socialization
 2821 Rural Society
 2822 Socialization
 2823 Social movements
 2824 Urban society

2830 Social Organization
 2831 Education
 2832 Family
 2833 Religion
 2834 Social class

2840 Social Problems
 2841 Criminology, penology
 2842 Demography
 2843 Family and marriage
 2844 Sex education
 2845 Social welfare

2880 Trips, Tours

2890 Experimental Concepts/Courses
 2891 Anthropology Curriculum Study Project
 2892 Sociological Resources for Secondary Schools
 2893 Univ. Ga. Anthropology Project

COMMUNICATION ARTS AND HUMANITIES

Language Skills, Linguistics, Literature By Source, Literary Criticism, Written and Verbal Communication, Foreign Language Instruction, General and Fine Arts, Music

	LANGUAGE SKILLS	3350	<u>World Literature</u>
3110	<u>Alphabet and Sounds</u>	3360	<u>Folklore</u>
3111	Developmental (linguistic, phonic)	3380	<u>Trips, Tours</u>
3112	Sound-symbol	3390	<u>Experimental Concepts/Courses</u>
31121	I.T.A.		
31122	Words in color		
3113	Traditional		
3120	<u>Reading</u>		LITERARY CRITICISM
3121	Beginning reading	3410	<u>Biographical</u>
3122	College prep reading	3420	<u>Drama</u>
3123	Individualized reading	3430	<u>Essay</u>
3124	Reading readiness	3440	<u>Fiction</u>
3128	Refresher reading	3450	<u>Poetry</u>
3129	Remedial reading	3490	<u>Experimental Concepts/Courses</u>
3130	<u>Penmanship</u>		
3140	<u>Spelling, Vocabulary</u>		
3150	<u>Punctuation</u>		
3160	<u>Listening Skills</u>		WRITTEN AND VERBAL COMMUNICATION
3170	<u>Dictionary and Reference Skills</u>	3510	<u>Rhetoric</u>
3190	<u>Experimental Concepts/Courses</u>	3511	Composition mechanics
		3512	English fundamentals
		3518	Refresher writing
		3519	Remedial writing
	LINGUISTICS		
3210	<u>Phonology</u>	3520	<u>Writing</u>
3211	Phonemics	3521	Creative
3212	Phonetics	3522	Expository
		3523	Narrative
3220	<u>Grammar</u>	3524	Persuasive
3221	Generative	3530	<u>Journalism</u>
3222	Structural	3531	Editorial writing
3223	Traditional	3532	Feature writing
3224	Transformational	3533	Reporting
3230	<u>Usage (functional grammar)</u>	3550	<u>Public Address</u>
3240	<u>History of English Language</u>	3551	Argumentation and debate
3250	<u>Dialectology</u>	3552	Discussion
3260	<u>Semantics</u>	3553	Parliamentary procedure
		3554	Persuasion
		3555	Public speaking
3290	<u>Experimental Concepts/Courses</u>	3560	<u>Oral Interpretation</u>
		3561	Choral speech
		3562	Readers' theatre
		3563	Verse choir
	LITERATURE BY SOURCE		
3310	<u>American</u>	3570	<u>Speech through Media</u>
3311	Colonial Literature	3571	Film
3312	Emerson and Thoreau	3572	Radio
3313	Hawthorne and Melville	3573	Tape
3314	Literature of the Revolution	3574	Television
3315	Other 19th Century writers		
3316	Regional writers	3580	<u>Trips, Tours</u>
3317	Romantics	3590	<u>Experimental Concepts/Courses</u>
3318	Whitman, Poe and Dickinson		
3319	20th Century writers		
3320	<u>English</u>		FOREIGN LANGUAGE INSTRUCTION
3321	Chaucer and Middle English Literature	3610	<u>English-as-Second-Language</u>
3322	Dickens, Eliot and Hardy		
3323	Other Victorian writers	3620	<u>French</u>
3324	Renaissance (1485-1660)	3621	General orientation
3325	Restoration and 18th Century	3622	Audio-lingual
3326	Romantics	36221	Beginning
3327	Shakespeare	36222	Intermediate
3328	20th Century writers	36223	Advanced
3330	<u>Biblical</u>	36224	Seminars
3340	<u>Classical</u>	36225	Language laboratory

3623 Traditional, grammatical
 36231 Beginning
 36232 Intermediate
 36233 Advanced
 36234 Seminars
 3624 Literature, culture

3630 German
 3631 General orientation
 3632 Audio-lingual
 36321 Beginning
 36322 Intermediate
 36323 Advanced
 36324 Seminars
 36325 Language laboratory
 3633 Traditional, grammatical
 36331 Beginning
 36332 Intermediate
 36333 Advanced
 36334 Seminars
 3634 Literature, culture

3640 Russian
 3641 General orientation
 3642 Audio-lingual
 36421 Beginning
 36422 Intermediate
 36423 Advanced
 36424 Seminars
 36425 Language laboratory
 3643 Traditional, grammatical
 36431 Beginning
 36432 Intermediate
 36433 Advanced
 36434 Seminars
 3644 Literature, culture

3650 Spanish
 3651 General orientation
 3652 Audio-lingual
 36521 Beginning
 36522 Intermediate
 36523 Advanced
 36524 Seminars
 36525 Language laboratory
 3653 Traditional, grammatical
 36531 Beginning
 36532 Intermediate
 36533 Advanced
 36534 Seminars
 3654 Literature, culture

3660 Other Languages
 3661 Chinese
 3662 Hebrew
 3663 Italian
 3664 Japanese
 3665 Latin
 3666 Swahili
 3669 Other (specify)

3680 Trips, Tours

3690 Experimental Concepts/Courses

GENERAL AND FINE ARTS

3710 Visual Art Theory
 3711 Appreciation, Criticism, History
 3712 Color theory

3720 Visual Art Techniques
 3721 Design
 3722 Drawing
 3723 Graphics
 37231 Photography
 37232 Print-making

3724 Lettering
 3725 Metalwork and jewelry
 3726 Painting
 3727 Pottery and ceramics
 3728 Sculpture
 3729 Textiles

3730 Commercial Design
 3731 Advertising
 3732 Illustration

3740 Environmental Design
 3741 Architectural design
 3742 Interior design
 3743 Landscape design
 3744 Urban planning

3750 Dramatic Arts
 3751 Acting
 3752 History of Drama
 3753 Play production
 3754 Playwriting
 3755 Theatre criticism
 3756 Theatre design, stagecraft, costumes

3780 Trips, Tours

3790 Experimental Concepts/Courses

MUSIC

3810 Music Theory
 3811 Appreciation
 3812 Composition
 3813 Fundamentals
 3814 Harmony

3820 Vocal Music
 3821 Choral
 3822 Glee Club
 3823 Individual instruction
 3824 Pop Groups

3830 Instrumental Music
 3831 Band, concert
 3832 Band, marching
 3833 Ensembles
 3834 Orchestra
 3835 Pop Groups

3840 Instrumental Instruction
 3841 Brass
 3842 Keyboard
 3843 Percussion
 3844 String
 3845 Woodwind

3850 Opera

3880 Trips, Tours

3890 Experimental Concepts/Courses

HOME, VOCATIONAL, INDUSTRIAL SKILLS

Agricultural and Home Economics, Business and Office, Industrial Arts (nonvocational),
Trade and Industrial Skills, On the Job Training

AGRICULTURAL AND HOME ECONOMICS		4324	Illustration
		4325	Reproduction
4110	<u>Agricultural</u>		
4111	Agri-business	4330	<u>Electricity</u>
4112	Agricultural economics	4331	Appliance repair
4113	Agricultural engineering	4332	Motors
4114	Agronomy	4333	Radio-TV
4115	Animal Science	4334	Industrial control systems
4116	Conservation, forestry, fishery	4340	<u>General Shop</u>
4117	Farm records	4341	Electrical
4118	Horticulture, orchard	4342	Machine shop
4119	Veterinary medicine	4343	Metals-cold
		4344	Metals-hot
4130	<u>Home Economics-Homemaking</u>	4345	Woods-carpentry
4131	Child development and family living	4346	Woods-millwork
4132	Clothing and textiles		
4133	Foods and nutrition	4350	<u>Graphic Arts</u>
4134	Home management	4351	Binding
4135	Housing and home furnishing	4352	Layout
2844	Sex education	4353	Photography
		4354	Printing
4140	<u>Home Economics-Occupational</u>		
4141	Care and guidance of children	4360	<u>Power Mechanics</u>
4142	Clothing services	4361	Internal combustion
4143	Food services	4362	Power trains
4144	Home furnishing and services	4363	Hydraulics
4145	Institutional services	4380	<u>Field Trips, Demonstrations</u>
4180	<u>Field Trips, Demonstrations</u>		
4190	<u>Experimental Concepts/Courses</u>	4390	<u>Experimental Concepts/Courses</u>
BUSINESS AND OFFICE			TRADE AND INDUSTRIAL SKILLS
4210	<u>General Business Instruction</u>	4410	<u>Construction</u>
4220	<u>Office Skills</u>	4411	Carpentry
4221	Bookkeeping and Budgeting	4412	Electrical
4222	Business Communications	4413	Masonry, brick
4223	Filing	4414	Painting, decorating
4224	Shorthand	4415	Plastering
4225	Typewriting	4416	Plumbing, pipe fitting
4230	<u>Office Machines</u>	4420	<u>Design, Drafting</u>
4231	Computer	4421	Architectural
4232	Data processing	4422	Industrial
4233	Duplicating	4423	Mechanical
4234	Tabulating		
4235	Transcription	4430	<u>Electricity-Electronics</u>
4240	<u>Specialized Instruction</u>	4431	Air conditioning
4241	Accounting	4432	Industrial electronics
4242	Advertising	4433	Motors
4243	Business finance	4434	Small computers
4244	Business law	4435	Radio-TV
4245	Data processing	4436	Refrigeration
4246	Personnel management		
4247	Programmer, systems analyst	4440	<u>Fabric Services</u>
4248	Retailing and marketing, sales	4441	Cleaning, laundering
4249	Wholesaling	4442	Leathercraft
		4443	Tailoring
		4444	Upholstering
4280	<u>Field Trips, Demonstrations</u>	4450	<u>Health and Public Service</u>
4290	<u>Experimental Concepts/Courses</u>	4451	Barbering
		4452	Child care
		4453	Cosmotology
		4454	Dental technician
		4455	Fireman
		4456	Law enforcement
		4457	Medical technician
		4458	Nursing
		4510	<u>Industrial and Commercial Printing</u>
		4511	Layout and design
		4512	Photography
		4513	Printing
		45131	Letter press
		45132	Offset
		4514	Typography
		4520	<u>Metalworking</u>
		4521	Cold metal
		4522	Hot metal
		4523	Machine shop
		4524	Welding

4530	<u>Power Mechanics</u>		ON THE JOB TRAINING
4531	Automobile body mechanics		
4532	Automotive mechanics	4610	<u>Work-Study (DE and OWE)</u>
4533	Aviation mechanics		
4534	Diesel mechanics	4630	<u>Cooperative Plan</u>
4540	<u>Woodworking</u>	4650	<u>Residential School</u>
4411	Carpentry	4670	<u>MDTA, Federal Projects</u>
4541	Millwork, cabinetry	4680	<u>Trips, Demonstrations</u>
4580	<u>Field Trips, Demonstrations</u>	4690	<u>Experimental Concepts/Courses</u>
4590	<u>Experimental, Concepts/Courses</u>		

HEALTH AND SAFETY EDUCATION, DIFFERENTIALIZED CURRICULUM

Physical Education Instruction, Physical Conditioning, Health and Safety Education,
Special Education.

PHYSICAL EDUCATION INSTRUCTION

5110	<u>Aquatic Instruction</u>
5111	Diving
5112	Lifesaving
5113	Swimming
5114	Water games
5120	<u>Dance and Rythms Instruction</u>
5121	Folk dance
5122	Modern
5123	Social
5125	Square
5126	Rythm activities
5130	<u>Group Games Instruction</u>
5131	Classroom games
5132	Gymnasium contests
5133	Relay games
5140	<u>Individual Sports Instruction</u>
5141	Archery
5142	Bowling
5143	Boxing
5144	Fencing
5145	Golf
5146	Gymnastics
5147	Tennis
5148	Track and Field
5149	Wrestling
5150	<u>Outdoor Recreation</u>
5151	Camping
5152	Fishing
5153	Ice Skating
5154	Small crafts
5160	<u>Team Sports Instruction</u>
5161	Baseball, softball
5162	Basketball
5163	Football
5164	Hockey
5165	Kickball
5166	Lacrosse
2167	Soccer
5168	Volleyball
5170	<u>Intramurals</u>
5180	<u>Trips, Demonstrations</u>
5190	<u>Experimental Concepts/Courses</u>

PHYSICAL CONDITIONING

5210	<u>Exercises</u>
5211	Conditioning exercises
5212	Coordinating exercises
5213	Isometrics
5214	Isotonics
5215	Posture
5220	<u>Individual Activities</u>
5221	Apparatus
5222	Tumbling
5223	Weight lifting
5230	<u>Testing</u>
5231	Group fitness testing
5232	Self-testing
5233	Station drills
5240	<u>Exercises for the Handicapped</u>
5250	<u>Selection, Use of Playground Equipment</u>
5260	<u>Military Drills</u>
5280	<u>Trips, Demonstrations</u>
5290	<u>Experimental Concepts/Courses</u>

HEALTH AND SAFETY EDUCATION

5310	<u>Personal Health Care</u>
5311	Dental health
5312	First aid
5313	Mental health
5314	Personal hygiene
5315	Physical fitness
2844	Sex education
5320	<u>Harmful Substances Instruction</u>
5321	Alcohol
5322	Chemicals
5323	Narcotics
5324	Poisons
5325	Tobacco
5330	<u>Safety Education</u>
5331	Civil defense
5332	Firearms
5333	Fire safety
5334	Safety in the home
5335	Traffic safety
5336	Water safety

5340 Driver Education
 5341 Classroom instruction
 5342 Driving skills (behind wheel)
 5343 Simulators
 5344 Traffic laws and enforcement

5380 Tours, Demonstrations

5390 Experimental Concepts/Courses

SPECIAL EDUCATION

5410 Exceptional Children
 5411 Auditory handicaps
 54111 Deaf
 54112 Hard of Hearing
 5412 Emotionally disturbed
 5413 Mentally retarded
 5414 Physically handicapped
 5415 Slow learner
 5416 Speech correction
 5417 Visually handicapped
 54171 Blind
 54172 Eye-motor coordination

5520 Specialized Programs
 5521 Delinquent or dropouts
 5522 Disadvantaged youth
 5523 Follow Through
 5524 Head Start
 5525 Migrants, transient
 5526 Outward bound
 5527 Pre-school training
 5528 Upward bound

5530 Interpersonal Skills
 5531 Self-concept
 5532 Social development
 5533 Vocational preparation

5580 Tours, Demonstrations

5590 Experimental Concepts/Courses

INSTRUCTIONAL CONCEPTS AND TECHNIQUES
 Curriculum, Guidance and Counseling, Instructional Materials and Evaluation

CURRICULUM

6110 Learning Theory

6120 Curriculum Building
 6121 Co-curricular activities
 6122 Humanities
 6123 Language arts
 6124 Mathematics
 6125 Natural sciences
 6126 Physical education
 6127 Social sciences
 6128 Special education
 6129 Vocational training

6130 Planning and Evaluation
 6131 Curriculum planning
 6132 Curriculum review
 6133 Evaluation of change
 6134 Financial projections
 6135 Implementing educational change

6140 Curriculum Laboratory

6150 Extra-time Instruction
 6151 After School Hours
 6152 Extended school year
 61521 Summer school
 61522 Tri-semester
 61523 Quarter
 6153 Shared-time
 6154 Tutorial programs

6160 Enrichment Programs

GUIDANCE AND COUNSELING

6210 Testing
 6211 Achievement, basic skills
 6212 Aptitude, mental ability
 6213 Attitudinal
 6214 Vocational, occupational

6220

Grouping
 6221 By ability
 6222 By achievement
 6223 By age
 6224 By sex
 6225 Heterogeneous, cross grouping
 6226 Homogeneous
 6227 Honors, gifted students

6230

Counseling Programs
 6231 Academic
 6232 Adult
 6233 College-bound
 6234 Dropouts
 6235 Non-college bound
 6236 Personal
 6237 Scheduling

INSTRUCTIONAL MATERIALS AND EVALUATION

6310

Conventional Media Assisted Instruction
 6311 Community resources
 6312 Disc and tape recordings
 6313 Display boards
 6314 Films and film strips
 6315 Models
 6316 Overhead transparencies
 6317 Pamphlets
 (Programmed instruction-see methodology)

6320

Newer Media Assisted Instruction
 6321 Academic games
 6322 Computer assisted instruction
 6323 Dial-access information retrieval
 6324 Individually prescribed instruction (I.P.I.)
 6325 Television

6330

Student Evaluation Techniques
 6331 Descriptive comments
 6332 Non-graded class
 6333 Non-graded school
 6334 Pass-fail
 6335 Traditional

ADMINISTRATIVE POLICIES

Community Relations, Faculty and Staff Relations, Student Relations, Training Techniques and Programs

	COMMUNITY RELATIONS	7340	<u>Student Records (traditional)</u>
7110	<u>Public Relations</u>	7341	Attendance
7111	Citizen groups	7342	Personnel records
7112	Mass media	7343	Report cards
7113	Parents		
		7350	<u>Student Records (Data Processing)</u>
7120	<u>Lay Community Relations</u>	7351	Attendance
7121	Booster clubs	7352	Machine graded examinations
7122	Community agencies	7353	Personnel records
7123	Community use of school	7354	Report cards
7124	Decentralization of schools		
7125	Lay advisory groups	7360	<u>Scheduling (traditional)</u>
7126	P.T.A.	7361	Block time schedule
		7362	Class assignment
7130	<u>Levy and Bond Campaigns</u>	7363	Diagonal schedule
		7364	Flexible schedule
		7365	Modular schedule
7140	<u>School Integration</u>		
7141	Busing	7370	<u>Scheduling (Data Processing)</u>
7142	Campus schools	7371	Block time schedule
7143	Cluster schools	7372	Class assignment
7144	Open enrollment, free choice	7373	Diagonal schedule
7145	Specialized school curriculum	7374	Flexible schedule
		7375	Modular schedule
	FACULTY AND STAFF RELATIONS		
			TRAINING TECHNIQUES AND PROGRAMS
7210	<u>Faculty Governance</u>		
		7410	<u>In-Service Training</u>
7220	<u>Assignments, Staffing</u>	7411	Interaction analysis
7221	Department Heads	7412	Micro-teaching
7222	Differential staffing	7413	Non-verbal communication
7223	Supervisory Personnel	7414	Sensitivity training
		7415	Teaching techniques
7230	<u>Personnel Policies</u>		
7231	Co-curricular assignment	7420	<u>Meetings, Projects</u>
7232	Leave policy	7421	Conferences
7233	Released time	7422	Research projects
7234	Sabbatical	7423	School visitations
7235	Substitute teachers	7424	Staff meetings
		7425	Workshops
7240	<u>Salary and Negotiations</u>		
7241	Extra-pay	7430	<u>Training Programs</u>
7242	Fringe Benefits	7431	Administrative personnel
7243	Negotiations policy	7432	Educational aides
7244	Salary scheduling	7433	Intern-extern
		7434	New teacher
7250	<u>Personnel Recruitment and Evaluation</u>	7435	Pupil as teacher, monitor
		7436	Special Education personnel
		7437	University student teacher
7260	<u>Educational Aides</u>		
7261	Clerical		
7262	Quasi-Instructional		
7263	Technical		
	STUDENT RELATIONS		
7310	<u>Student Organizations</u>		
7311	Academic clubs		
7312	Athletic clubs		
7313	Musical clubs		
7314	School and public service		
7315	Social clubs		
7316	Student government		
7320	<u>Student Activities</u>		
7321	Exchanges		
7322	Handbooks		
7323	Newspapers		
7324	Trips		
7325	Yearbook		
7330	<u>Student Behavior</u>		
7331	Discipline		
7332	Dress code		
7333	Ethnic, racial unrest		
7334	Pre and post school hours		

ADMINISTRATIVE FUNCTIONS

Buildings and Supplies, School Finance and Law

BUILDINGS AND SUPPLIES

8110	<u>Building Plans</u>
8111	Architect selection
8112	Campus plan
8113	Cluster schools
8114	Instructional pods
8115	Open school
8116	School-within-a-school
8117	Site selection
8120	<u>Physical Plant Maintenance</u>
8130	<u>Private School Use of Equipment</u>
8140	<u>Purchase, Rental of Equipment</u>
8141	Audio-visual
8142	Classroom supplies
8143	Data processing
8144	Textbooks
8150	<u>Room Design and Construction</u>
8151	Athletic facilities
8152	Auditorium, theatre
8153	Cafeteria
8154	General classroom
8155	Library, instructional material center
8156	Media and AV instruction facilities
8157	Music facilities
8158	Remodeling, additions
8159	Science facilities
8160	<u>Vocational Facilities Design and Construction</u>

SCHOOL FINANCE AND LAW

8210	<u>Financial Resources</u>
8211	Federal programs
8212	Financial analysis
8313	Foundation program
8220	<u>Accounts and Investments</u>
8221	Athletic funds
8222	Bond sales
8223	Insurance, Annuities
8224	Payroll deductions
8225	Student money accounts
8226	Use of Data Processing
8230	<u>School Law</u>

GRADE, METHOD, REGION DESIGNATORS

The four or five digit CODE NUMBER is the subject indentation. Three additional distinctions are possible—the separation of referrals by grade level, methodology, and geographical region. If you use one of the CODE LETTERS listed below the referrals will be limited to that category—if you do not use one of the letters you will receive all the references for your subject. (See the inside cover example instructions where the referrals were limited to high school grades and those in Ohio, but were not limited to any particular methodology.)

GRADE LEVEL

- A. Pre-school
- B. K-3
- C. 4-6
- D. 7-8
- E. Middle School
- F. High School
- G. K-12
- H. Dropout
- I. Post-high, College
- J. Adult

METHODOLOGY

- A. Discussion
- B. Independent study
- C. Lecture
- D. Media instruction
- E. Program evaluation
- F. Programmed instruction
- G. Research design
- H. Simulation, gaming
- I. Team teaching

REGION

- A. Ohio
- B. Indiana
- C. Kentucky
- D. Michigan
- E. Pennsylvania
- F. West Virginia
- G. Eastern U.S.
- H. North Central U.S.
- I. Southern U.S.
- J. Western U.S.

Name: Dr. Mr. Mrs. Miss _____
first last

Type or print

Personnel Card

ARIS

OHIO EDUCATION ASSOCIATION
225 EAST BROAD STREET
COLUMBUS, OHIO 43215
PHONE: (614) 228-4526

Institutional Affiliation: _____
employer

Title: _____

Phone: () _____
area

Address: _____

Description of official responsibilities and major interests: _____
no. and street

Describe relevant training, experience and projects: _____
city state zip

List any major publications: _____

Describe previous consultanting activities and list references: _____

List your resource speciality from the OEA ARIS code.

Code DESCRIPTOR title	Code NUMBER 4 or 5 digit	Grade level LETTER	Methodology LETTER	Region LETTER	Date entered
_____	<input type="text"/>	_____	_____	_____	_____
_____	<input type="text"/>	_____	_____	_____	_____
_____	<input type="text"/>	_____	_____	_____	_____

Use separate card form for each entry

List other specialities from the OEA ARIS code.

Type or print

Program Card

Title of program, project: _____

Name of district, agency, organization: _____

Address: _____
no. and street city state zip Phone: () _____
area

ARIS

OHIO EDUCATION ASSOCIATION
225 EAST BROAD STREET
COLUMBUS, OHIO 43215
PHONE: (614) 228-4526

Name of contact person: _____

DESCRIPTION OF PROGRAM

Briefly describe this program: _____

Title: _____

Date project implemented: _____

- Project is: pilot project, or
 trial run, or
 partially implemented, or
 fully implemented.

Check those involved in the planning for this program:
 Department head, Students, Supervisor,
 Principal, Superintendent, Teachers,
 Others _____

What is most significant about this program? _____

Approximate annual cost per pupil involved: \$ _____

List special equipment needed: _____

Report any evaluative results: _____

Check source(s) of funding: local district, state
 federal, private

List your program using the OEA ARIS code.

Code DESCRIPTOR title	Code NUMBER 4 or 5 digit	Grade level LETTER	Methodology LETTER	Region LETTER	Date entered
_____	<input type="text"/>	_____	_____	_____	_____

Use separate card form for each entry

Place this form in an envelope and mail to:

ARIS
OHIO EDUCATION ASSOCIATION
225 EAST BROAD STREET
COLUMBUS, OHIO 43215

Place this form in an envelope and mail to:

ARIS
OHIO EDUCATION ASSOCIATION
225 EAST BROAD STREET
COLUMBUS, OHIO 43215



MICHIGAN-OHIO REGIONAL EDUCATIONAL LABORATORY

3750 W. JODWARD AVENUE • DETROIT, MICHIGAN 48201 • (313) 833-1320

The Michigan-Ohio Regional Educational Laboratory is a federally funded, independent, non-profit corporation designed to improve educational practice. As one part of its total program, MOREL is developing an Educational Resource Bank designed to link the resources of the region to the needs. Brief descriptive statements on the MOREL Resource Bank are enclosed.

We are contacting you at this time because you have been recommended as an educational resource which would be of value as an inclusion in the Resource Bank. We hope you will wish to complete the accompanying personnel data form and in so doing, assist us in developing an effective and much needed educational tool. It is significant to keep in mind that many requests will come forth for consultant and examples of exemplary programs. Your assistance in the identification of other people and programs for incorporation would also be greatly appreciated.

Your inclusion in the Resource Bank is completely voluntary. The only obligation that you incur is that of being open to requests for assistance. The specific circumstances, conditions and rates of pay under which the assistance is provided is a matter of your choice and individual agreement with the requesting party. Through inclusion in the Resource Bank, you may be substantially assisting your fellow educators as well as your own professional background. Directions for completion of the data form are indicated on the form itself and in the accompanying green Resource Bank Coding Scheme.

We sincerely hope that you choose to complete and return the data form. If you have any questions, please contact Charles Kromer or George Grimes at MOREL. Thank you for assisting us.

Sincerely yours,

Charles J. Kromer

CJK:ja
Enclosures

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MICHIGAN-OHIO REGIONAL EDUCATIONAL LABORATORY

3750 WOODWARD AVENUE • DETROIT, MICHIGAN 48201 • (313) 833-1320

Subject:

The Michigan-Ohio Regional Educational Laboratory is a federally funded, independent, non-profit corporation designed to improve educational practice. As one part of its total program, MOREL is developing an Educational Resource Bank designed to link the resources of the region to the needs. Brief descriptive statements of the Laboratory program and the MOREL Resource Bank are enclosed.

We are contacting you at this time because you are involved in a program which has been recommended as a valuable inclusion in our Resource Bank. By filling out the enclosed Project and Agency Data Forms, you will be giving us the basic information concerning your program which can then be given to others who indicate an interest. Thus, by becoming a part of the Resource Bank, we will be able to assist you in the area of dissemination.

For example, let us assume a school in Ohio is interested in developing an Independent Study Program in their middle school. They call or write MOREL asking for assistance. Through the Resource Bank, we should be able to give them the locations of those places which have Independent Study Programs in operation as well as specific resource people who may be able to assist their staff.

It will be the intent of the Resource Bank to link together those who wish assistance with those who can give the help. Important to keep in mind is the fact that many requests will come forth for consultant and examples of exemplary programs. Your assistance in the identification of other people and programs for incorporation would also be greatly appreciated.

We sincerely hope that you choose to complete and return the data form. If you have any questions, please contact Charles Kromer or George Grimes at MOREL.

Thank you for assisting us.

Sincerely yours,

Charles J. Kromer

CJK:bmb

Enclosures



THE OHIO EDUCATION ASSOCIATION
225 East Broad Street, Columbus, Ohio 43215 / 228-4526

REQUIRES IMMEDIATE ATTENTION

January, 1969

M E M O R A N D U M

TO: Participants of MOREL Resource Bank

FROM: Byron H. Marlowe, Coordinator, ARIS

RE: Request listing in Association Referral Information Service (ARIS)

The OEA will operate a referral information service. This service is based on the prototype of the Michigan-Ohio Regional Educational Laboratory (MOREL) information system. We will provide the names of resource personnel, locations of innovative or exemplary programs, and references to books and journal articles to educators in order to facilitate the improvement of instruction and administration of our schools.

We need your assistance in order to build our bank of personnel and program references. Review the enclosed code sheet to identify all of the listings for which you or your colleagues possess expertise. List each person as a referral for each of these subjects. Circulate the additional copies to members of your staff and colleagues--encourage them to participate.

We anticipate that every district in Ohio will have at least one program or personnel listing. Indeed, we hope to have multiple listings from every district and university. Review your program of instruction and administration. Identify everyone in your system who has shown leadership in program development or possessing special expertise. In addition, list those programs worthy of being viewed by other teachers, supervisors, and/or administrators. We seek the listing of every program worth showing to others, everyone capable of consulting, assisting in the planning, implementation, and/or evaluation of programs.

The subject listings are designed to be specific enough to assist educators with the revision and improvement in any course or any major sub-section. This allows you to enter specialized personnel or programs as referrals. This should be of particular importance for the user needing assistance in a section of a course or for some administrative responsibility. For example, many social science teachers would use assistance on only sections of their courses--civil liberties, negro history, etc.

ARIS, with your cooperation, will have sufficient referrals to be operational February 17. ARIS is a major undertaking--capable of offering a much needed service to Ohio educators and facilitating a major improvement in instruction and administration. We hope you see this same potential and will share with Ohio educators your personnel and programs.

For further information about code sheets or listing cards, call us at (614) 228-4526.

Appendix E

Suggested Materials for a Basic Referral Library Collection

The following is a comprehensive listing of a basic materials collection necessary for a Referral Library operation as described in Chapter 2. The list is divided into items essential for referral operations, and items desirable if funds permit. It should be noted that a library offering traditional reference services would need a considerably larger collection. It is, therefore, advantageous for such a Referral Library to be located physically close to a large research library.

In this listing, U.S. government documents are listed separately unless they fit into another category (indexes, magazines, etc.). The latter have been placed in the appropriate category and noted "(GPO)." Many indexes published by the H. W. Wilson Co. are sold on

a "service basis" which computes a unique subscription price for each library. The H. W. Wilson Co. should be contacted about indexes noted "(price arranged)." Many valuable newsletters published by the regional educational laboratories, research and development centers, and ERIC clearinghouses, are not listed here. The addresses of these organizations are available in the *Standard Education Almanac* (annual; Academic Media, Los Angeles; \$12.95).

An approximate price for the remaining items (or one year's subscription in the case of serials) is supplied to aid in estimating cost, but for current prices and other order information, the following resources should be consulted:

RESOURCE	USED TO LOCATE
<i>Books in Print</i> . (2 vol., annual) R. R. Bowker Co., 1180 Avenue of the Americas, New York, N. Y. 10036 (\$21.85).	books (commercially published)
Educational Resources Information Center, Bureau of Research, U.S. Office of Education, Washington, D. C. 20202.	ERIC materials
<i>Irregular Serials and Annuals</i> . (1st edition, 1967) R. R. Bowker Co., 1180 Avenue of the Americas, New York, N. Y. 10036 (\$25.25).	annuals serials (irregular)
<i>Monthly Catalog of U.S. Government Documents</i> . Government Printing Office, Washington, D. C. 20402 (\$6.00/yr.).	U.S. government documents
<i>National Directory of Newsletters and Reporting Services</i> . (1st edition, 1966) Gale Research Co., 1400 Book Tower, Detroit Mich. 48226 (\$20.00).	newsletters services
<i>Scholarly Books in America</i> . (quarterly) Association of American University Presses, Room 802, 1 Park Avenue, New York, N. Y. 10016 (\$1.95/yr.).	
<i>Ulrich's International Periodicals Directory</i> . (2 vol., 12 edition, 1968) R. R. Bowker Co., 1180 Avenue of the Americas, New York, N. Y. 10036 (\$30.00 plus supplements).	serials (regular)
Winchell, Constance. <i>Guide to Reference Books</i> . (8th edition) American Library Association, 50 East Huron Street, Chicago, Ill. 60611 (\$15.00 plus supplements).	reference works

Essential Materials

REFERENCE BOOKS

American Universities & Colleges. \$22.00
Books in Print (2 vol.). \$21.85
Columbia Encyclopedia (3rd ed.). \$49.50
Computer Assisted Instruction Guide. \$10.00
Dictionary of Education. \$11.95
Directory of Special Libraries and Information Centers. \$28.50
Encyclopedia of Associations (Gale). \$29.50
Encyclopedia of Educational Research. \$27.50
Foundations Directory. \$12.00
Guide to Reference Books (Winchell, 8th ed.). \$15.00 (supplement). \$3.50

Information Please Almanac. \$1.65
Irregular Serials and Annuals. \$25.25
Lovejoy's College Guide. \$3.95
National Directory of Newsletters and Reporting Services. \$20.00
National Register of Educational Researchers (Phi Delta Kappan). \$20.00
NEA Handbook. \$2.00
Programmed Instruction Guide (ENTELEK). \$14.50
Research Centers Directory. \$39.50
Resources in Educational Research. \$6.95
Standard Education Almanac. \$12.95
Statesman's Yearbook. \$12.50

Subject Guide to Books in Print. \$19.25
Ulrich's International Periodicals Directory (12th ed.).
\$30.00
Webster's Third New International Dictionary. \$47.50
World Almanac. \$1.75
World of Learning. \$25.50

U.S. GOVERNMENT DOCUMENTS

Budget in Brief. \$.50
Census of the Population, U.S. Summary (1960).
\$7.00
Compendium of Federal Education Laws.
Congressional Directory. \$3.50
Digest of Educational Statistics. \$1.25
Directory of Federal Statistics for Local Areas. \$1.00
Directory of Information Resources in the U.S. (4
vol.). \$8.00
Education Directory (4 vol.). \$6.00
Federal Statistical Directory. \$1.00
Health, Education & Welfare Trends. \$1.25
Popular Names of U.S. Government Reports. \$.30
Projections of Educational Statistics to 1976-77. \$1.00
Statistical Abstract of the United States. \$4.75
Statistical Services of the U.S. Government. \$1.00.
Statistics of State School Systems. \$.75
U.S. Government Organization Manual. \$2.00

SERVICES

College and University Reporter. \$455.00
Congressional Quarterly Weekly Report. \$120.00
Guide to Federal Assistance for Education. \$265.00

INDEXES

Abstracts of Computer Literature (Burrows). free
Abstracts of Instructional Materials for Vocational and
Technical Education (ERIC). free
Abstracts of Research Materials for Vocational and
Technical Education (ERIC). free
American Book Publishing Record (Bowker). \$40.00
Bibliographic Index (Wilson). (price arranged)
Book Review Index (Gale). \$39.00
British Education Index. \$20.00
Business Education Index. \$2.00
Child Development Abstracts & Bibliography. \$12.00
Cumulative Book Index. \$48.00
Documentation Abstracts.
Education Index (Wilson). (price arranged)
Educational Administration Abstracts. \$10.00
Forthcoming Books and Subject Guide to Forthcoming
Books. \$23.00
Index to Periodical Articles by and about Negroes.
\$12.00
Library Literature. (price arranged)
Masters' Abstracts. \$6.00
Monthly Catalog of U.S. Government Documents
(GPO). \$6.00
Monthly Checklist of State Publications (GPO). \$3.00

New York Times Index. \$125.00
Paperbound Books in Print. \$23.00
Poverty and Human Resources Abstracts. \$40.00
Psychological Abstracts. \$30.00
Public Affairs Information Service Bulletin. \$100.00
Reader's Guide to Periodical Literature (Wilson).
\$28.00
Research Grants Index (GPO). \$10.00
Scholarly Books in America. \$1.95
Social Science & Humanities Index. (price arranged)
Sociology Abstracts. \$100.00
State Education Journal Index. \$20.00

ERIC

ERIC Microfiche Document Collections:

Disadvantaged. \$230.00
Higher Education. \$115.00
Paccsetters (annual since 1966). \$100.00/yr.
Manpower (serial). \$100.00
Cooperative Research Reports, 1956-65. \$280.00
Research in Education (monthly). \$1,000.00/yr.
ERIC Document Indexes:
Research in Education (monthly). \$21.00
KWIC Index to the Disadvantaged (Detroit Public
Schools). \$15.00
Paccsetters in Innovation (annual since 1966).
\$2.50
Research Reports, 1956-65 (2 vol.). \$3.75
Manpower Research Inventory, 1966-67. \$2.75
Thesaurus of ERIC Descriptors (& supplements).
\$4.50

MAGAZINES AND JOURNALS

American Documentation. \$18.50
American Education (GPO). \$3.75
American Educational Research Journal. \$6.00
Audiovisual Instruction. \$6.00
Child Development. \$20.00
Childhood Education. \$6.00
Children. \$1.25
Comparative Education Review. \$5.00
Education. \$5.50
Education Digest. \$5.00
Educational Forum. \$5.00
Educational Leadership. \$5.50
Educational Products Report (EPIE). \$35.00
Educational Theory. \$6.00
Elementary School Journal. \$6.00
Exceptional Children. \$7.00
Harvard Educational Review. \$6.00
Journal of Educational Measurement. \$7.00
Journal of Educational Psychology. \$10.00
Journal of Negro Education. \$5.00
Journal of Research and Development in Education.
\$7.00
Journal of Secondary Education. \$5.00
Journal of Teacher Education. \$5.00

National Elementary Principal (with membership in Dept. of Elementary School Principals, NEA). \$15.00
 Nation's Schools. \$25.00
 NEA Research Bulletin. \$2.00
 Newsweek. \$9.00
 Phi Delta Kappan. \$5.00
 Saturday Review. \$8.00
 School and Society. \$8.75
 School Management. \$8.00
 Theory into Practice. \$3.75
 Today's Education (NEA Journal) (with NEA membership). \$19.00
 Urban Education. \$5.00
 Welfare in Review (GPO). \$1.75

NEWSLETTERS

ASCD News Exchange
 Cincinnati School Foundation Newsletter. free
 Consumer Price Index (national and Detroit). free
 Economic Indicators (GPO).
 Education News. \$10.00
 Education Recaps. \$3.00
 Education USA (NEA). \$15.00
 Educational Researcher (AERA, NEA). \$3.00
 NASSP Spotlight (NEA). \$2.00
 News, Notes and Quotes (PDK). \$.50
 PACE Report (U. Ky.). free

NEWSPAPERS

Christian Science Monitor. \$6.00
 New York Times (Sunday edition). \$36.00
 Wall Street Journal. \$25.00

Desirable Materials

REFERENCE BOOKS

Annual Review of Information Service and Technology. \$15.00
 Audiovisual Equipment Directory. \$6.00
 Dewey Decimal Classification (17th). \$30.00
 Dictionary of Foreign Phrases and Abbreviations. \$6.00
 Familiar Quotations (Bartlett). \$15.00
 Guide to American Directories. \$25.00
 Guide to American Educational Directories. \$22.50
 Handbook of Everyday Law. \$6.50
 International Handbook of Universities. \$16.00
 Lovejoy's Guide to Preparatory Schools. \$2.95
 National Directory of Employment Services. \$25.00
 Pocket Data Book (biennial, GPO).
 Political Handbook and Atlas of the World. \$8.50
 Popular Guide to Government Publications. \$12.00
 Subject Headings of the Library of Congress. \$15.00
 Teachers' Library — How to Organize It. \$1.50

SERVICES

Croft Educators Service. (price varies; contact Croft Educational Services, New London, Connecticut)
 Automated Education Handbook (Automated Education Center, Detroit Public Schools). \$18.00

INDEXES

Applied Science & Technology Index. (price arranged)
 Art Index (Wilson). (price arranged)
 Bibliographic Survey: The Negro in Print. \$7.25
 Biological and Agricultural Index. (price arranged)
 British Humanities Index. (252 shillings)
 Bureau of the Census Catalog (GPO). \$2.25
 Business Periodicals Index. (price arranged)
 Guide to Microforms in Print. \$4.00

Index Medicus (GPO). \$60.00
 Index to Book Reviews in the Humanities. \$12.75
 Index to Legal Periodicals. (price arranged)
 Library and Information Science Abstracts. \$10.00
 Subject Guide to Children's Magazines. \$7.50
 Vertical File Index. \$8.00

MAGAZINES AND JOURNALS

ALA Bulletin. \$6.00
 American School & University. \$8.00
 American School Board Journal. \$4.50
 American Teacher. \$5.00
 A-V Communication Review. \$6.00
 British Journal of Educational Studies. \$4.00
 Canadian Education and Research Digest. \$3.00
 Catholic Educational Review. \$5.00
 Daedalus. \$6.50
 Educational Administration Quarterly. \$5.00
 Educational Broadcasting Review. \$6.00
 Educational Research (British). (23 shillings)
 Educational Technology. \$10.00
 Grade Teacher. \$5.50
 Harper's. \$8.50
 History of Education Quarterly. \$8.00
 International Journal of Religious Education. \$5.00
 Library Resources and Technical Services. \$5.00
 North Central Association Quarterly. \$4.00
 Psychological Review. \$10.00
 Quarterly Journal of the Library of Congress. \$2.50
 School Review. \$8.00
 Social Education. \$6.00
 Sociology of Education. \$7.00
 Teachers College Record. \$7.50
 U.S. News and World Report. \$10.00
 Wilson Library Bulletin. \$5.00

NEWSLETTERS

Administrator's Notebook. \$2.00
Carnegie Quarterly. free
Echo. \$4.00
Education Abstracts. \$5.00
ERC Reports. free
Headstart Newsletter (OEO). free
IAR Research Bulletin. \$2.00
Newsletter (School of Education, Ohio State Univ.).
free

Newsletter (Joint Council on Economic Education).
free
TEPS Newsletter (NEA) free
Times (London) Educational Supplement. \$10.00

NEWSPAPERS

National Observer. \$10.00
New York Times (& back issues on microfilm).
Times (London). \$80.00
Washington Post. \$54.00

APPENDIX F
SAMPLE NUMERIC SUBCLASSIFICATION SYSTEM

007	Orientation (first day, new teacher)	55	Geology
008	Curriculum materials (general) issued by <u>state</u> agencies; commercial	551	Weather
009	Curriculum materials (general) issued by <u>local</u> systems	56	Paleontology
01	Interdisciplinary programs	57	Biology
02	Libraries (school)	571	Physiology
1	Kindergarten	58	Botany
15	Psychology, child development	59	Zoology
17	Character education	6	Applied science, technology (general)
18	Human and intercultural relations (inc. integration of the schools)	6121	Nursing education
2	Religion	613	Hygiene
3	Literature (general)	6131	Dental health
31	American literature	614	Safety education
32	English literature	6141	Driver education
4	General language	616	Alcohol and narcotics
42	Language arts (general)	617	Home and family living
421	Reading	62	Vocational education (general)
422	Spelling	621	Machine shop & home mechanics
423	Handwriting	6211	Woodworking
424	Speech	622	Welding
4241	Drama and dramatics	623	Electricity
4242	Auditorium	6231	Radio mechanics
425	Poetry	624	Metalworking
426	English language composition	625	Graphic art (printing)
4261	Journalism	626	Watchmaking
427	Grammar	627	Automotive mechanics
428	Linguistics	628	Aviation mechanics & education; space travel & aeronautics
429	Work-study skills	63	Agriculture
43	German	632	Conservation of resources
44	French	635	Gardening
45	Italian	64	Home economics
46	Spanish	641	Nutrition
47	Latin	645	Housing
48	Greek	646	Clothing
49	Hebrew	65	Business education (general)
491	Foreign language (general)	651	Office practice (business machines)
5	Science (general)	652	Typing
51	Mathematics	653	Shorthand
512	Algebra	654	Business law
513	Geometry	655	Business English
52	Astronomy	656	Business math
53	Physics	657	Bookkeeping
54	Chemistry	658	Business organization & management
		659	Distributive education
		6591	Advertising

6592	Selling and salesmanship	83	Civics
6593	Retailing and marketing	84	Economics
67	Guidance	85	Law
671	Vocational guidance	86	Communication (general)
69	Special education (general), including disadvantaged	87	Commerce
691	Speech correction	88	Transportation
692	Blind	881	Water transportation
693	Deaf	882	Land transportation
694	Crippled	89	Geography
695	Mentally retarded	891	World geography
697	Delinquent	892	Economic geography
698	Foreign born	893	Ancient geography
7	Art (general)	896	Africa
72	Architecture	897	Mexico
73	Sculpture	898	South America
74	Arts & crafts	9	History (general)
743	Architectural drafting	91	World history
744	Mechanical drawing	93	Ancient history
75	Painting	94	European history
77	Photography	95	Asian history
78	Music	96	African history
79	Physical education (general)	97	North American history
791	Health education	971	Indians of North America
792	Gymnastics	973	U.S. history
793	Games	973N	American Negro history
795	Dance	9731	Discovery and exploration
796	Sports and athletics	9732	Colonial period
799	Camping	9733	Revolutionary War
8	Social studies (general)	9737	Civil War
81	Community life (citizenship)	9739	20th century
811	Community resources	9774	Michigan history
812	School and community	98	Latin American history
813	Community workers		

APPENDIX G
KEYWORD-IN-CONTEXT (KWIC) LISTINGS

YEAR ALGEBRA IN THE FOUR FUNDAMENTAL PROCESSES OF ADDITION
 AND SUBTRACTION SURVEY OF FOUR MAJOR SUBJECTS. = STUDY
 OF RESPONSES MADE IN FOUR NARROW MENTAL FUNCTIONS INVOLVE
 EFFECTIVENESS OF FOUR TECHNIQUES OF PROGRAMMING THE
 PRESENTED IN GRADES FOUR THROUGH EIGHT ARE LEAST UNDERST
 ARITHMETIC, GRADES FOUR TO SEVEN INCLUSIVE. = A COURSE
 THE GENERAL EDUCATION OF FOUR YEAR COLLEGE STUDENTS. = IN T
 MATHEMATICS COURSES IN FOUR YEAR COLLEGES. = AN ANALYSIS OF
 MATHEMATICS COURSES IN FOUR YEAR COLLEGES. = AN ANALYSIS OF
 ION OF SMSG TEXT--GRADE FOUR. = EVALUAT
 ABILITY TEST FOR GRADES FOUR, FIVE, AND SIX. = ARITHMETIC VOC
 ARITHMETIC FOR GRADES FOUR, FIVE, AND SIX, USING THE UNIVE
 C ACHIEVEMENT IN GRADES FOUR, SIX, AND EIGHT. = OF ARITHMETI
 ASPECTS OF THE FOURTH ANNUAL SCIENCE TALENT SEARCH.
 ON PUPIL ACHIEVEMENT IN FOURTH GRADE ARITHMETIC AND READING.
 ACADEMIC ACHIEVEMENT OF FOURTH GRADE CHILDREN. = AND THE
 EARNING AND TEACHING OF FOURTH GRADE MATHEMATICS. = IN THE L
 RENCES IN ARITHMETIC OF FOURTH GRADE PUPILS. = DIFFE
 SOLVING ABILITY OF FOURTH GRADE PUPILS, OUNN AVENUE
 F A SELE+A STUDY OF 329 FOURTH GRADE PUPILS' UNDERSTANDING O
 RITHMETIC LEARNING IN A FOURTH GRADE. = EXPERIENCE IN A
 TIC FOR CHILDREN IN THE FOURTH GRADE. = PROGRAM IN ARITHME
 = THE FOURTH MENTAL MEASUREMENTS YEARBOOK.
 TEACHERS IN THE THIRD, FOURTH, AND SIXTH GRADES. = AND
 REN'S + STUDY OF THIRO, FOURTH, FIFTH, AND SIXTH GRADE CHILO
 MADE IN ARITHMETIC BY FOURTH, FIFTH, AND SIXTH GRADE PUPIL
 FRACTION CONCEPTS HELD BY YOUNG CHILD
 DIVISION BY A FRACTION MADE MEANINGFUL.
 THE USE OF RATIO OR FRACTIONAL THINKING TO EXPLORE COLLE
 F LEARNING IN BEGINNING FRACTIONS AND MIXED NUMBERS. = O
 THE BASIC CONCEPTS IN FRACTIONS AND THEIR APPLICATION IN
 FRACTIONS ARE RATIOS, TOO. =
 OF COMMON FRACTIONS AS PRESENTED IN NINE SERIE
 EVENT IN THE STLOY OF FRACTIONS AT THE SIXTH GRADE LEVEL. =
 PUPILS' DIFFICULTIES IN FRACTIONS ENCOUNTERED BY NINTH GRADE
 TREATMENT OF VULGAR FRACTIONS IN AMERICAN ARITHMETICS
 CHILDREN'S CONCEPT OF FRACTIONS IN GRADES FIVE AND SIX OF
 HE REMEDIAL TEACHING OF FRACTIONS IN THE SECONDARY SCHOOL. =
 WITH DECIMAL FRACTIONS IN THE SEQUENCE OF NUMBER
 STUDY IN DIVISION OF FRACTIONS IN WHICH AN EXPLANATION
 IN MULTIPLICATION OF FRACTIONS WHEN COMPARED WITH THE
 CONCEPTS IN DIVISION OF FRACTIONS WITH AUTO INSTRUCTION. =
 NOMINATOR + DIVISION OF FRACTIONS. = A STUDY OF THE COMMON OE
 DIVISION OF FRACTIONS.
 DECIMAL VERSUS COMMON FRACTIONS. =
 YOUNG CHILDREN AND FRACTIONS. = FIFTH
 GRADE CHILDREN DISCOVER FRACTIONS. = CASE OF
 DECIMALS VERSUS COMMON FRACTIONS. = A NEW RATION
 ALE FOR THE TEACHING OF FRACTIONS. = RETENTION OF T
 HE SKILL OF DIVISION OF FRACTIONS. = CASE STUDIES OF P
 UPILS' ERRORS IN COMMON FRACTIONS. = + AND OPERATIONS R
 ELATING TO INTEGERS AND FRACTIONS. = + AND TESTING THE
 UNDERSTANDING OF COMMON FRACTIONS. = + CONCEPT OF SCALE
 AND THE SUBTRACTION OF FRACTIONS. = + TO TEACHING ADDI
 TION AND SUBTRACTION OF FRACTIONS. = + INVERSION METHOC
 IN TEACHING DIVISION OF FRACTIONS. = + OF ERRORS ON ACHI
 EVENT IN THE STUDY OF FRACTIONS. = + TO THE OPERATION
 OF DIVISION WITH COMMON FRACTIONS. = HISTORICAL CONFLICT
 --DECIMAL VERSUS VULGAR FRACTIONS. = IN THE ADDITION AN
 O SUBTRACTION OF SIMPLE FRACTIONS. = + OF INDEPENDENCE IN
 ADDING AND SUBTRACTING FRACTIONS. = + OF THE CAUSES OF P
 UPILS' ERRORS IN COMMON FRACTIONS. = + AND THE EFFECT ON SKI
 LL IN MULTIPLICATION OF FRACTIONS. = + COMMON DENOMINATOR ME
 THOD IN THE DIVISION OF FRACTIONS. = + ERRORS IN SIX TYPES O
 F SUBTRACTION INVOLVING FRACTIONS. = + OF PUPILS WHILE WORKI
 NG ON MULTIPLICATION OF FRACTIONS. = + AND GIVING MEANING TO
 THE NOTATION OF DECIMAL FRACTIONS. = + MAJORS' UNDERSTANDING
 AND KNOWLEDGE OF COMMON FRACTIONS. = + TO COMPARE TWO METHODS
 OF TEACHING DIVISION OF FRACTIONS. = + DIFFICULTIES ENCOUNTERED
 BY COLLEGE FRESHMEN IN FRACTIONS. = + EVALUATION OF CERTAIN RE
 ADINESS TESTS IN COMMON FRACTIONS. = + MENTAL FUNCTIONS INVOLVE
 D IN THE COMPUTATION OF FRACTIONS. = + MULTISENSORY AIDS IN TNS
 TRUCTION IN DIVISION OF FRACTIONS. = + OF TWO APPROACHES TO TEA
 CHING MULTIPLICATION OF FRACTIONS. = + QUANTITY AND QUALITY OF
 STIMULUS IN ADDITION OF FRACTIONS. =
 ARE RATIOS
 ARITHMETIC WITH FRACTIONS--SEVEN YEAR CLOS USE THEM.
 OF RURAL SCHOOLS IN THE FRANKLIN COUNTY, VERMONT NORTHWEST
 ARITHMETIC FOR A FREE SOCIETY.
 READING, ARITHMETIC, AND FRENCH. = + TEACHING OF FIFTH GRADE R
 MADE BY STUDENT+NATURE, FREQUENCY AND PERSISTENCE OF ERRORS
 S IN TEXAS STATE. = + FREQUENCY COUNT OF ARITHMETICAL TERM
 OF DIFFERENT LENGTH AND FREQUENCY IN ARITHMETIC. = + PERIODS
 HEMATICS AS A FACTOR IN FRESHMAN CALCULUS. = + STUDY GROUP MAT
 THE COURSE IN FRESHMAN COLLEGE ALGEBRA AT STATE
 D FIVE HOUR SECTIONS OF FRESHMAN ENGLISH. = + IN THREE AN
 OF THE CONTENT OF FRESHMAN GENERAL MATHEMATICS COURSES

BUCKG63CNFP ANDCEGA605PS HAYEMC27ARM BELCF62PLR JONEGL625CM LAGRCW375MT CHERRJ55MGE KLEIAE54AMC REACCB55AMC RE003963EST LAKS3H59CRA STRECR525VG RUSCC657AA EDGHEA47TAF ANCEPS55ETA HCGGE 6IARA MACYH 568PM WALLYM6010A SANOJF6021H FOREHB555FP HARCLW44ECO HUCSFF575ER YBOCL053FM STRIVM60SAT HILLEH525TF CARTM5ISEM GUNCAG57FCH CHRHC480FM SILVIM58URF EOWAAU32IEC SEBCHT47LBC TRIMHC497FA ECKEE 48AIP AFIROB54ESA GUILW5450FE JONEEK57HSO HOWACF48TMO ERCMJC56RPF FAIRON62C0F SLUST 62CSU TRIPLE62IDW LELAA062ETC CAPPLR620FS CAPPLR620F JOHNJT560VC POLKAR35YCF MULHV 54FGC JOHNJT46COC RIESAP55NRT STEPL 59RSU SEARAH28C5P LAZAN 490TC STEE0C40TTU SCOTL 62CCS MCKALO56PAT CAPPLR60CCO AFIROB5680C ALKIER49ESV JONEE 60HCC SEBCHT47LBC LANKF6508IA SEARAH27ACP CAPPLR620FS BR00GMS4COM RANHMK49MAG HEALIF37SRP MODRKA57CM BREWM 5ISEM KRIP 62ECT GUILY5450EC SOUCHM43CEC HAYEMC27ARM PRICRO51EEK MILLJW61EGT DRCCWG36RBC JOHNJT48ARF GUNCE 58FSY RE005757AHF ANDER 435AA BEATR 47AFS HIMMML57AET BUCKG63CNFP STILES55FCA HEUBBP26RED COONLH635MS WILLJL54PMH MALL0G56CAJ GALLZT550AC

PART OF WESTERN CULTURE + TEACHING FRESHMAN MATHEMATICS AS AN INTEGRAL
 AND GRACE OBTAINED IN A FRESHMAN MATHEMATICS BY TELEVISION. =
 THE EFFECTIVENESS OF A FRESHMAN MATHEMATICS COURSE. =
 CONCEPT FORMATION IN FRESHMAN MATHEMATICS COURSE. = OF
 TREATMENT OF FRESHMAN MATHEMATICS FOR ENGINEERS. =
 AT A STUDY OF THE FRESHMAN MATHEMATICS IN TEACHERS
 CONTENT FOR COLLEGE FRESHMAN MATHEMATICS. = SUBJECT PAY
 CTIONAL TIME IN COLLEGE FRESHMAN MATHEMATICS. = WEEKLY INSTRU
 VEMENT. = FRESHMAN PROBLEMS AND ACADEMIC ACHIE
 EXAMINATION FOR FRESHMAN SCIENCE-- MATHEMATICS STUDENT
 IC ABILITIES OF COLLEGE FRESHMAN. = ARITHMET
 TIC GEOMETRY TO COLLEGE FRESHMAN. = + TOPICS IN SOLIO ANALY
 IN MATHEMATICS / FRESHMEN AND SENIORS IN THE COLLEGE
 COLLEGE OF AGRICULTURE FRESHMEN AT CORNELL UNIVERSITY. = OF
 EMOIOAL MATHEMATICS FOR FRESHMEN AT KNOXVILLE COLLEGE. = IN R
 OF ERRORS OF COLLEGE FRESHMEN IN ARITHMETIC AND RAOICALS.
 DEFICIENCIES OF COLLEGE FRESHMEN IN ARITHMETIC. = DIAGNOSIS
 ENCOUNTERED BY COLLEGE FRESHMEN IN DECIMAL. = DIFFICULTIES
 OF ENTERING COLLEGE FRESHMEN IN ENGINEERING AND THE
 ENCOUNTERED BY COLLEGE FRESHMEN IN FRACTIONS. = DIFFICULTIES
 ABILITIES OF ALABAMA FRESHMEN MAJORING IN ELEMENTARY
 THE ABILITY OF COLLEGE FRESHMEN TO READ MATHEMATICS TEXTS
 N PERCENTAGE BY COLLEGE FRESHMEN. = ENCOUNTERED I
 NTS RETAINED BY COLLEGE FRESHMEN. = UNDERSTANDINGS AND JUDGE
 ARITHMETIC- FRIENCS OR FOES. =
 IN ARITHMETIC. = FRONTIERS IN EDUCATIONAL RESEARCH IN
 FRONTIERS IN EDUCATIONAL RESEARCH. =
 FRONTIERS IN EDUCATIONAL RESEARCH. =
 FRONTIERS IN TEACHING MATHEMATICS AN
 D SCIENCE. = FSU MATH CAMPERS. = EVALUATIONS OF AN
 O BY THE CAMPERS. = NSF- THE FUNCTION CONCEPT IN SECNDARY SCHOOL
 MATHEMATICS. = THE FUNCTION IN THE PRIMARY GRADES. =
 LETTING ARITHMETIC FUNCTION OF ATTITUDE DIFFERENCES. = S
 OLIVING PERFORMANCE AS A FUNCTION OF COMPLEXITY. =
 NUMBER GROUPING AS A FUNCTION OF COMPLEXITY. =
 CFCTIVITIES AS A FUNCTION OF EXPERIENCE, EXPECTATION,
 MATHEMATICS AS A FUNCTION OF INSTRUCTORS, AND STUDENT
 EDUCATIONAL PROGRAM. = THE FUNCTION OF MATHEMATICS IN A STATE E
 NT HEAC IN A LARGE + THE FUNCTION OF THE MATHEMATICS DEPARTME
 L UNIT ON THE QUADRATIC FUNCTION. = AN EXPERIMENTA
 NG THE NEWER ASPECTS OF FUNCTIONAL ARITHMETIC. = MEASURI
 WHAT IS FUNCTIONAL ARITHMETIC. =
 RELATIONSHIPS BETWEEN FUNCTIONAL COMPETENCE IN MATHEMATICS
 DESIGNED TO MEASURE FUNCTIONAL COMPETENCE IN MATHEMATICS
 = FUNCTIONAL COMPETENCE IN MATHEMATICS
 - ITS MEANING AND + FUNCTIONAL COMPETENCE IN MATHEMATICS
 PROVISIONS AND FUNCTIONAL COMPETENCE IN MATHEMATICS
 OF LOUISIANA HIGH + FUNCTIONAL COMPETENCE IN MATHEMATICS
 STUDENT ACHIEVEMENT OF FUNCTIONAL COMPETENCE THREE YEARS
 PERFORMANCE IN GENERAL + A FUNCTIONAL ITEM ANALYSIS OF GROUP PE
 OF THE OUTCOMES OF FUNCTIONAL MATHEMATICS AND FORMAL
 CONCEPTS FOR CERTAIN FUNCTIONAL MATHEMATICS COURSES. =
 ARY SCHOOLS. = FUNCTIONAL MATHEMATICS IN THE SECOND
 ARY SCHOOLS. = FUNCTIONAL MATHEMATICS IN THE SECONO
 ARITHMETIC FUNCTIONAL PROBLEM UNIT NUMBER. =
 RELATIONAL AND FUNCTIONAL PROGRAM IN ARITHMETIC. =
 ENIOR MATHEMATICS. = FUNCTIONAL THINKING IN MATHEMATICS. =
 R CONCEPTS THRU PLANNED FUNCTIONAL USE. = DEVELOPING NUMBE
 FACTS CONCERNING THE FUNCTIONING OF THE MISSOURI STATE
 S. = GROUP FUNCTIONING UNDER NEGATIVE CONDITION
 SAL MATHEMATICS PART I, FUNCTIONS AND LIMITS. = UNIVER
 GENERAL MENTAL FUNCTIONS ASSOCIATED WITH DIVISION. =
 HIGHER MENTAL FUNCTIONS ASSOCIATED WITH DIVISION. =
 IN FOUR NARROW MENTAL FUNCTIONS INVOLVED IN THE COMPUTATIO
 VARIABLES AND FUNCTIONS. =
 ES OF CHANGE IN COMPLEX FUNCTIONS. = CORRELAT
 DIFFICULTY OF GROUPEO FUNDAMENTAL ARITHMETIC COMBINATIONS.
 MAIN ERRORS INCURRED IN FUNDAMENTAL ARITHMETIC OPERATIONS. =
 OF OR COMPETENCE IN THE FUNDAMENTAL MATHEMATICAL PROCESSES. =
 CONCEPTS BY +CONTROL OF FUNDAMENTAL MATHEMATICAL SKILLS AND
 ON ACHIEVEMENT IN FUNDAMENTAL OPERATIONS IN ARITHMETIC
 OF DIFFICULTIES IN THE FUNDAMENTAL OPERATIONS IN ELEMENTARY
 FOR TEACHING THE FOUR FUNDAMENTAL OPERATIONS WITH SIGNED
 MATHEMATICS INTEREST, FUNDAMENTAL OR NOT. =
 UMBER + REVIEW OF THE FUNDAMENTAL PROCESSES. = THE CROSS N
 Y + WEAKNESSES IN THE FUNDAMENTAL PROCESSES AMONG SECONOAR
 ALGEBRA IN THE FOUR FUNDAMENTAL PROCESSES OF ADDITION,
 OF CERTAIN ABILITIES FUNDAMENTAL TO THE STUDY OF GEOMETRY
 TUCENTS IN ARITHMETICAL FUNDAMENTALS AND VERBAL PROBLEMS. = S
 TY PROG+THE LEARNING OF FUNDAMENTALS IN AN ARITHMETIC ACTIVI
 MEASUREMENTS IN THE FUNDAMENTALS OF ARITHMETIC. =
 LOGICAL ANALYSIS OF THE FUNDAMENTALS OF ARITHMETIC. = PSYCHO
 CT SCORES IN ARITHMETIC FUNDAMENTALS. = TOWARD PERFE
 RESPONSE IN ARITHMETIC FUNDAMENTALS. = + BETWEEN STIMULUS AND
 A ONE YEAR COURSE, THE FUSION OF PHYSICS AND CHEMISTRY. = CO
 MPILATION OF ARITHMETIC GAMES FOR THE ELEMENTARY SCHOOL. = +CO

KLINH 54FMI ELLIHH57TFM HARRLG00ATH AHMAJ559EEF HORTRES9CFF SHULCE33PTF LINSHM555FM MILLMW61IIS GABEKE55SRE SLINGE55FPA GREHPF60RPV OICKJW55AAC PETTA 59CRE BESUJ555KM GEISHA54HOC HARVRI56CRM HABEAE510CR HABEEA500CF GUILWA460EC KNIGFE570IP GUILWS450EC BULLRES35SAA FILAAE57ACF GILWS460EP SUELBA51MUJ BROWFR57AFF BROWHA47FER BROWHA47FER WRIGJW47FER LAUGB 51FTM NELSWH61HMC HAMLHR32FCS MOTTSM49LAF CAREGL585OP OAW50T53NFG GE0HNE48ESF COUNS 52ACH WRIGJT38FMS OAUGJ054FMO PAIG0060EUQ HAROLW53FA SUELBA47HNA WILSGM45WFA PITTRJ52RFC DAVIDJ50CSA ALKIC34FCH BETZM 48FCR RENNJW55RBI BROWRC56FCH RENNJW57SAF NORTGJ50FTA BUSHW59AOF GAGENA50CCF GAGEA56FMS KOKOFM56FMS WILSGM49AFP MCSMET47FPA Y800035SRF MCCLJW40FUI HAROLW510HC OOUGHJ35FSC OSTLLA56GFU RE003054HFU VANEH 56GHF VANEH 56HHF HAYEMC27ARM LUCHA55AVF MANNWH59CCO MOONRC40CFI BERTJ 54MEI HESHJC40EMC OHL5MK46CFM HIGHHW54EIP PHILAJ450IR ZAHNEA60EST TORRP 46MIF WILLMF54RFP HOHLGG53WFP BUCKG630NFP MINNHJ18ICA BRANWF52CPS HARAH 3ALFA FORATG26KFA JUONCH27PAP WILSGM54TPS WILLE47STI PETES 45EOC BRUNBC55UCA

SUBJECT



/COMMITTEE OF/	RE000354RKC	AYERS CH	AYERGH340EE	BEZUSKA SJ	BESUSJ555MM	BROWKE611PM
/COOPERATIVE COMMI	REC04560PHS	AYRE HG	AYREHG53CSC	BHARGAVA S	BHARS 56ACS	BROWKE63ART
/JOINT COMMISSION	YB000440PHS	BACCOCK H	AYREHG5CSTL	BIESHUEUVEL S	BIESS 51RAI	BROWKE50CCG
/SUBCOMMITTEE OF/	RE000156SCC	BADGLEY RE	AYREHG39ASI	BILLIG AL	BILLAL44SAF	BROWKE50MTG
ABERNETHY JR	ABEHR53GEV	BADGLEY LG	BA8CH 54APS	BILLINGTON LE	BILLE47STI	BROWKE58RTH
ABRAMS JC	ABRAJC56SCP	BAIRD GH	BACGBC56AEE	BINTER AR	BINTAR61CTM	BROWKE58ART
ADAMS O	ADAMO 47ARP	BAKER CH	BACGRE56GSC	BISHOP NM	BISHMM48PAA	BROWN KE /EO./
ADAMS RE	ACAMRE30SCV	BAKER RR	BAILLG31ETS	BISHOP C	OLANHT49PAA	BROWN LT
ADKINS DE	ACK18E58TLE	BAKER SJ	BAIRGH61GCM	BJONERUC CE	BISHO 24PMS	BROWN PC
ADKINS JB	ADK1JB54MPP	BAKST A	BAKECH53MTA	BJORK CM	BJONCE60ACP	BROWN RC
ADKINS JE	ACK1JE56HAS	BALCWIN WF	BAKERN62PPM	BLACKA AM	BJONCE57SAC	BROWN RG
AFTRETH OB	AFTROB568CO	BAMBERGER CF SR.	BAKERR60PPM	BLACKHAM GJ	BJORCM50SSC	BROWNELL WA
	AFTROB54ESA		BAKESJ51HU	BLACKWELL AM	BLACAM60IGN	BROWN H05BSMP
	AFTROB57SWE		BAKSA 35TAC	BLAIR GM	BLACGJ55CSP	BROWRC56FCM
AHMAN JS	AHMAJS59EEF	BANGHART Fh	BALOWE52NFC	BLICK CJ	BLACAM4CCIF	BROWRG55FSM
AHRENOT MH	AHREMH58FFF	BANNER AE	BAMPBCF42IGE	BLOOM BS	BLAIGM43RAS	BROWWA47FER
AIKEN LR JR.	AIKELR61EAP	BARAKAT MK	BANGFH63ESP	BLOOMBERG M	BLICGJ54PCS	BROWWA45TMG
	AIKELR61MKA	BARCUS HJ	BANNAE36EPP	BLUMEL RE	BLOOH 55PSS	BROWWA47EBT
ALBANESE CT	ALBAOT60RDA	BARNES K	BARAHK51FSM	BCEKER MC	BLMRE60STS	BROWWA280CN
ALBERS HE	ALBEME47ESS	BARNES WE	FAKCHP46CM	BCEKMAN H	BLMRE60STS	BROWWA35PCL
ALBERT AA	ALBAAA62FPH	BARNEY OP	BARNX 60SEE	BCCUT TL	BLMRE60STS	BROWWA35EPD
ALBERTY H AND OTHC		BARR AS	BARNWE62P5S	BCLLENBACHER J	BLMRE60STS	BROWWA38AC
ALEXANDER MJ	ALBEH 51LLA	BARRY HE	BARNOP57TIB	BCLSER FC	BLOOB550PSP	BROWWA38TKL
ALEXANDER VE	ALEXHJ580ST	BARTNICK LP	BARRAS47SOL	BONO EA	BLOOB547IPS	BROWWA400S
	ALEXVE62SOS	BARTRAM CE	BARRHE58AEA	BONO JG	BLOOB547IPS	BROWWA439LR
ALICE MR	ALEXVE59RSF	BASESCU S	BARTLP53S4R	BORUSCH BJA	BLOOB547IPS	BROWWA441AG0
ALKIRE ER	ALICMR54MPO	BASSHAM H	BARTCE56ASH	BGUCHARC JB	BLOOB547IPS	BROWWA441SLO
ALKIRE GO	ALKIER49ESV	BASSHAM HC	BASES 54LIS	BGULIGANO G	BLOOB547IPS	BROWWA43LHC
	ALKIG058HIT	BASSLER OC	BASSH 62TUP	BOULWARS CE	BLOOB547IPS	BROWWA45WMTA
	ALKIGD54FCM	BATES JW	BASSHC61RPG	BOYO CC	BLOOB547IPS	BROWWA47PMT
ALLEGRI L	ALLEL 60MNG	BAUCOM TV	GAGNRH63SRS	BOYD EN	BLOOB547IPS	BROWWA49MNL
ALPERN ML	ALPEML46ATH	BAUMGARTNER RE	BATCJM54RPB	BOYO JB	BLOOB547IPS	BROWWA51ARP
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	RE003445SSA	BECKMAN MW	ALPER 63PFM		BLOOB547IPS	BRUCHM59DSJ
AMES LB	ILG FL510TA	BECKMANN MW	JGNEPS49RPM		BLOOB547IPS	BRUELJ47NCS
ANDERSON CW	ANODH61AEA	BEENKFN MW	BECKMW51LHC		BLOOB547IPS	BARRAS47SOL
ANDERSON E	ANOE 59IVO	BEENZHOLD Fh	BECKMW52HHL		BLOOB547IPS	BRUELJ39DAA
ANDERSON EL	ANOEL59PCS	BELCASTRO FP	BEENMM56CMN		BLOOB547IPS	BRUELJ400RT
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ANDERSON GL	ANOGL49QTO		BELCFP62PLR		BLOOB547IPS	BRUELJ38DA
ANDERSON GR	ANOGR58TEG	BELL MS	BELOH06OSSA		BLOOB547IPS	BRUELJ350A
	ANDEGR57VTO	BELTRAMP L	BELLC 62SMT		BLOOB547IPS	BRUELJ40RT
ANDERSON HJ	ANDEHJ31CAA	BENDIG AM	BELLC 55MCO		BLOOB547IPS	BRUELJ50SCA
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ANDOVER, EXETER, L		BERGER EJ	BENZHE56TOE		BLOOB547IPS	BRYARC45ESR
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ANDREEN EP	ANOREP36WA	BERGER IL	BENZHE33SSS		BLOOB547IPS	BUCHTA JW
ANDREWS JJ	ANORJ62NSM	BERGER ML	BENZHE41ASH		BLOOB547IPS	BUCK RC
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ARMSTRONG ME	ARMSME55CIS	BERNSTEIN A	BERGEJ55MVF		BLOOB547IPS	
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- Annual Review of Information Science and Technology
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- Britannica Book of the Year
- Digest of Public General Bills & Selected Resolutions with Index
- International Yearbook of Education
- National Council for the Social Studies Yearbook
- National Society for the Study of Education Yearbook

BIBLIOGRAPHIC REVIEWS

- Bibliography on Knowledge Utilization and Dissemination
- The Teacher's Library: How to Organize It and What to Include
- "Outstanding Education Books of 19—" in Today's Education, the Journal of the NEA (annual, May)

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- Books in Print
- Cumulative Book Index
- Forthcoming Books
- Guide to Reference Books
- Paperbound Books in Print
- Publishers' Trade List Annual
- Reference Books in the Mass Media
- Scholarly Books in America
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APPENDIX I SAMPLE DATA SHEET

Alexander Graham Bell Association for the Deaf, Inc.

Alexander Graham Bell Association for the Deaf, Inc.
1537 Thirty-Fifth Street, N.W.
Washington, D. C. 20007

The Association is a philanthropic organization established in 1890 by Alexander Graham Bell to promote the teaching of speech and lipreading to the deaf.

Areas of Interest

The promotion of the teaching of speech and lipreading and to encourage the use of residual hearing. To inform, encourage, and help parents of deaf children to work for better educational facilities for all deaf children, to encourage people to become teachers of the deaf, encourage better public understanding of the deaf, and the gathering and circulation of information concerning deafness.

Holdings

The Volta Bureau Library is one of the world's largest collections, on deafness including books, pamphlets, and research reports.

Publications

Pamphlets - a wide range of pamphlets dealing with audiology and hearing aids, inheritance of deafness, the psychological implications of deafness, etc. A free checklist is available. The cost of the pamphlets range from 15¢ to 75¢

Books - the association publishes books and distributes the books of other publishers on various topics relative to deafness. (Prices vary.) A list of these books is available at no cost.

The Volta Review - the official journal of the Association, published monthly, except June, July, and August. (9 issues - \$8.00).

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The Volta Bureau Library is open to all who wish to use it. A small lending library is available by mail to members.

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User Qualifications

Requests for information and guidance from librarians, hospitals, physicians, nurses, teachers-in-training, Government agencies, sociology students, parents and teachers of deaf children, graduate students in the field of hearing and speech, and researchers in the field are answered.

APPENDIX J

Annotated List of Selected Collections of Materials in the MOREL Information Center's Information File

Introduction

The following is a selected and briefly annotated list of subject descriptors which represent the significant collections of materials in the information file of the MOREL Information Center. These collections were developed gradually, as a specific need arose for such materials, in replying to the internal and external requests for information received by the Information Center. Therefore, no claims are made that the list is exhaustive or that the collections are more extensive than is necessary to serve the immediate needs of the Information Center.

The descriptors were taken, for the most part, from the *Thesaurus of ERIC Descriptors* (1967), published by the Educational Resources Information Center, Bureau of Research, U. S. Office of Education.

Administration

Collection of general articles on administration, leadership, principalship, departmental chairman, etc. An internally produced bibliography and several externally acquired bibliographies.

Attitudes, Measurement

A small collection of scholarly articles on attitude measurement, both general and for various specific phases of educational research.

Attitudes, Teacher

Several articles and an externally acquired bibliography, as well as several ERIC abstracts.

Behavioral Objectives

Contains two bibliographies, an internally produced one and one external. Several articles on the principles of behavioral objectives are there, as well as a few ERIC abstracts.

Class Management

This collection includes an internally produced bibliography as well as several articles on the subject.

Community Control of Schools

Included is a copy of the New York City decentralization plan, as well as internally produced bibliography and a considerable collection of ERIC abstracts. Various articles are also included.

Computer-Assisted Instruction

An extensive collection of articles, both practical and scholarly, and a good collection of ERIC abstracts. Some literature describing computer hardware is available, as well as an internally produced bibliography.

Copyright

Various articles, guidelines, etc., on copyright and an outline of plagiarism. A pamphlet on copyright and educators.

Core Curriculum

An internally produced bibliography and one obtained externally, as well as a good collection of articles.

Creative Thinking

An extensive collection of materials includes many scholarly articles and two internally produced bibliographies.

Delinquency, Juvenile

Included are one externally acquired bibliography and a collection of various current articles.

Disadvantaged

An extensive collection of materials, including two internally produced bibliographies and three externally acquired ones. There are also hundreds of ERIC abstracts and a great deal of scholarly articles.

Discovery Processes

Two internally produced bibliographies and an extensive collection of articles on discovery, induction, deduction, etc. are available.

Feedback, Student

Included are a lengthy internally produced bibliography and a good supply of articles, both practical and scholarly.

Financial Support

A collection of several articles and one internally produced bibliography.

Flexible Scheduling

Included are one externally acquired bibliography, an internally produced list of institutional resources, and a small collection of articles.

Higher Education Act of 1965 (89-329)

A bibliography, internally produced, and a small group of articles and announcements constitute the bulk of this collection.

Independent Study

A small collection of articles, both practical and scholarly, as well as an internally produced bibliography are included.

Individual Instruction

One bibliography, externally acquired, and several articles are available.

Information Science

One internally produced bibliography, as well as three externally acquired ones, are available. A good collection of articles and ERIC abstracts are included.

Education Professions Development Act of 1967 (90-35)

Included are a list of the Michigan and Ohio administrators as of summer 1968, several articles descriptive of the law, and a small collection of general articles.

Educational Facilities

One externally acquired bibliography and several articles on facilities, educational parks, etc.

Educational Media

The collection contains an internally produced bibliography, several ERIC abstracts, and several general articles.

Educational Technology

Several general articles and one externally produced bibliography are available.

Elementary and Secondary Education Act of 1965 (89-10)

A lengthy internal bibliography and several articles, both on the act in general and on its various titles.

Environmental Influences

A small collection of scholarly articles, and a group of ERIC abstracts.

Evaluation

Four externally acquired bibliographies and several articles and ERIC abstracts, as well as a document called "guidelines for the evaluation of teaching."

Inservice Teacher Education

An extensive collection of materials that includes the following: an internally produced bibliography, various research reports, and an extensive collection of articles, both popular and scholarly.

Instructional Materials Center

One internally produced bibliography and two externally acquired ones complement a good collection of articles, descriptive sheets, and transparency masters.

Integration Methods

A large collection of articles, mostly scholarly, and one internally produced bibliography.

Interaction Analysis

A small collection of current articles, mostly scholarly, complement a collection of ERIC abstracts and one lengthy produced bibliography.

Listening

A large collection of scholarly articles is supplemented by an internally produced bibliography and a collection of abstracts, mostly ERIC.

Mathematics Education

An extensive collection of materials, including two short internally produced bibliographies, several project resource lists, a small collection of ERIC abstracts, and a large collection of scholarly articles.

Microteaching

One externally acquired bibliography and several ERIC abstracts and print-outs are included, as well as an extensive collection of practical and scholarly articles.

Middle Schools

This large collection includes: two internally produced bibliographies, one large externally acquired bibliography, agency resource lists, ERIC and other abstracts, a packet of materials from the University of Toledo, and a large collection of articles (many scholarly).

Motivation

A very extensive collection of scholarly articles is complemented by two internally produced bibliographies, and externally acquired one, the reply to a DATRIX search, and several ERIC abstracts.

Negotiations, Contract

A small collection includes several articles and one internally produced bibliography.

Negro Education

A good collection of scholarly articles and several ERIC abstracts are supplemented by a lengthy externally acquired bibliography.

Nongraded System

This collection included one externally acquired bibliography, several internally produced agency resource lists, an NEA research memo with bibliography, and a good collection of articles, ERIC abstracts, pamphlets, etc.

Personnel Selection

Four externally acquired bibliographies on various aspects of personnel selection are available, as well as, a small collection of articles.

PERT (Program Evaluation Review Technique)

A good collection of scholarly articles as well as practical ones, pamphlets, etc.

Physical Education

One internally produced bibliography and two externally acquired ones, a good collection of ERIC abstracts, and various articles, papers and announcements are available.

Problem Solving

A medium sized collection of articles on several aspects of problem solving.

Programming Planning Budgeting System (PPBS)

In addition to a small collection of articles, there are three externally acquired bibliographies, a set of booklets from George Washington University, and some ERIC abstracts.

Racial Attitudes

An extensive collection, including two internally produced bibliographies, one listing articles and one listing attitude measurement instruments. There is also one externally acquired bibliography.

Reading

This collection consists of three externally acquired bibliographies, along with several ERIC abstracts, book reviews, etc.

Regional Educational Laboratories

In addition to an extensive list of general articles about the theory development and operation of the laboratories, there are critical reviews and papers, laboratory guidelines, news releases, and various laboratory directories and program critiques.

School Study Councils

This collection contains general articles, descriptive literature, various SSC proposals, evaluative materials, and a list of SSC's.

School Year, Length

Extensive collection of articles, papers, reprints, etc., most of them from the School Calendar Study Committee and local school systems. These are also, two externally acquired bibliographies and one internally prepared, and NEA research memo with bibliography, and some ERIC materials.

Self Concept

Four externally acquired bibliographies and one internally produced one constitute the bulk of this collection which also includes some ERIC abstracts.

Sex Education

Included are two externally acquired bibliographies and a small collection of articles and booklets.

Simulation

Three externally acquired bibliographies and one internally produced one, in addition to the results of a DATRIX search, a pile of ERIC abstracts, and a good collection of articles constitute this collection.

Small Group Instruction

A good collection of articles is complemented by an internally produced bibliography.

Student Response Systems

Quite a few articles, both practical and scholarly, are the basis of a collection that includes booklets, lists of salesmen, and literature on various types of hardware.

Study Skills

An internally prepared bibliography and a list of study materials supplement an internally prepared bibliography.

Supervision

A large collection of scholarly articles on supervision and the supervisor are available, in addition to an externally acquired bibliography.

Systems Approach

A large collection of scholarly articles and papers are available, in addition to one internally produced and three externally acquired bibliographies, a structured DATRIX search, and several resource lists.

Teacher Aides

Several articles and descriptive sheets on teacher aides and para-professionals are supplemented by two bibliographies, one external and one internal.

Team Teaching

A list of resources and an externally acquired bibliography are the basis of a collection which also includes a large number of articles, a packet from Lamphere (Michigan) Public Schools, and some ERIC materials.

Work Attitudes

A fairly large collection of scholarly articles on work attitudes, work-study aspirations, central life interests, etc.

In addition to the above descriptors, which represent the significant areas of our searches to date, we have also had more limited needs in the areas listed below. Again, the terms are selected from the *Thesaurus of ERIC Descriptors*. Presently, these minor collections house fragmentary references located thus far and are not considered to be major resources.

Attitudes, student

Behavior

Behavior, non-verbal

Change Agents

Civil Rights Act of 1964 (88-352)

Class size

College, junior

Communication

Compensatory Education

Congress, U.S.

Counseling

Dialect

Discipline

Dropouts

Economic Opportunity Act of 1964 (88-452)

Educational television

English education

ERIC

Feedback, teacher peer group

Foreign Language Education

Foundations
Gradings
History and Philosophy of Education
Humanities
Initial Teaching Alphabet
Interviews
Legislation, educational
Model cities program
MOREL (general)
National Defense Education Act of 1958 (85-864)
National Foundation on the Arts and Humanities Act
of 1965 (89-209)
Organic curriculum
Perception
Privacy, invasion of
Questioning and discussion

Reinforcement
Research and Development Centers
Rewards
Science education
Self evaluation, teacher
Sensitivity training
Social characteristics
Special education
Student participation
Student teaching
Transportation
Urban Education
Vocational Education Act of 1963 (88-210)
Vocational Schools
Writing